# The Builder.

No. CCXLIX.

*SATURDAY, NOVEMBER* 13, 1847.


VARIOUS matters constructional have fallen under our notice during the week, and may be usefully placed before our readers. On Monday, for example, we assisted in a series of experiments at Mr. Cubitt's establishment, Thames Bank, on the strength of bricks (conducted by Mr. Dines, an able assistant of Mr. Cubitt), the results of which were exceedingly striking. The difference of strength in bricks, as our readers will perceive when we put before them the details of the experiments, is extraordinary, and the necessity of attending to certain circumstances in their formation and use, is very apparent. The power was applied by means of the hydraulic press, and the metal surfaces, between which the bricks were crushed, were filed smooth and made perfectly parallel,—an important point.

A good place brick (if we may use such a contradictory expression,—a *place* brick always meaning a *bad* brick), faced with plaster to make an even bed, yielded to 11 tons, and was crushed by 16½ tons. In other words, (as we shall use the same terms in recording all the experiments,) a disruption of the brick was observable when 11 tons' weight was on it; and after 16½ tons it offered no further resistance, but fell to pieces, and the index of the ram receded.

A similar brick to the last, also faced with plaster, yielded to 16 tons, and was crushed by 22½ tons.

Two common stock (?) bricks, differing from the latter merely in colour, yielded to 10 tons, and were crushed, one by 16 tons and the other by 16½ tons.

A good stock yielded to 30, and fell to pieces under 34 tons.

A superior washed stock yielded to 36 tons, and was crushed by 44½ tons.

A pressed and kiln-burnt stock, made for superior purposes, ground on both faces to get a true bed, *bore a pressure of* SIXTY TONS (the limit of the power of the ram used), and was taken out sound and uninjured!! A similar brick not ground, but faced with plaster, resisted the same pressure without crushing, but was slightly broken round the edges.

A bat of the same description, with a somewhat uneven bed, not faced, was crushed by 27 tons.

It is unnecessary to say how much depends on the evenness of the bed: when this is not the case, the brick is broken up in detail. The hollow formed in the underside of bricks, for the reception of mortar, necessarily lessens their resisting power. All the bricks of which we have spoken were of Mr. Cubitt's own make. An ordinary place brick from another field yielded to 3 tons, and was crushed by 9 tons; and a second of the same description yielded like the first to 3 tons, and was crushed by 6 tons.

Such experiments as these open the eyes most usefully, and lead always to advantage. A brick is a brick to some persons,—that is, it always means the same thing: yet here we see it in one case untouched by *sixty* tons' weight, and in another falling to powder under the pressure of *six*.

We may have the opportunity of recording, on a future occasion, the resisting power of other materials: in the meantime we may give the result of similar experiments with this end in view, on three pieces of Caen stone the size of a brick, $9 \times 4\frac{1}{2} \times 3$. The first, which had the bed parallel with the end and at right angles with the pressing surfaces, was cracked by thirty tons (not in the line of bed), and crushed by thirty-nine tons. The second block, with the bed parallel with the vertical face, and at right angles to the pressing surfaces, stood forty-two tons before it crushed; and the third, with the bed parallel with the pressing surfaces, was slightly cracked by forty tons, but stood fifty tons and a half before it crushed!

Mr. Cubitt has recently instituted a series of experiments on the usefulness, or otherwise, of wrought-iron tension bars, employed in the manner in which they frequently are, to assist wood and cast-iron beams. The result shews their worthlessness, as our readers shall have the opportunity of seeing shortly.

Great want of thought, if not ignorance, appears to us to have been shewn in the selection of *cast-iron* as the material for the *beacon on the Goodwin Sands*, recently destroyed, and in the mode of construction. The beacon consisted of a central cast-iron tube 2 feet 6 in. in diameter, put together in 10 and 20 feet lengths, sunk 33 feet into the sand, by means of Dr. Potts's very ingenious and important application of atmospheric pressure, and surmounted by a cage or ball, at a height of about 50 feet from the sand level. Around the central column were four other cast-iron tubes 15 inches in diameter, slightly tied together and braced to the main tube. It was unwisely placed on the most exposed part of this fatal shoal, and so badly constructed that its fate might have been predicted.

To use so brittle a material as cast-iron for any part of the beacon above the sand, was most unwise; and then, to make the chance of failure greater, the joints were of very indifferent character, the end of one tube being merely let into the other, and secured, if we are rightly informed, by six three-quarter pins.

By implication, the failure of this substructure may prove injurious to the patentee of the process by means of which the tubes were driven, in an incredibly short space of time, through the sand, into which, to drive a pointed rod of 3 inches' diameter one inch, when it was 13 feet in the sand, forty-six blows of a monkey, weighing 1 cwt., were required. Such an impression as this we should much regret, as the invention is an important one, and is in no way touched by the destruction of the beacon. A small spar breakwater, properly constructed on a foundation of tubes so driven into the sand, would long brave the wind and waves, and might be kept in repair with facility.

Dr. Potts's process, as most of our readers probably know, is very simple: the lower extremity of the hollow tube or pile, which may be of any shape, is open; the upper end is fitted with a cover; the air is extracted from the tube by pumps, or a partial vacuum is otherwise formed by the condensation of steam, &c., when the sand or shingle flows into it; and the tube, by its own gravity and the pressure of the atmosphere upon its upper surface, descends. The force with which it is driven down is not to be calculated by the area of its upper end alone, on which the atmosphere acts: the removal of all obstacles below, driven into the tube by the atmosphere to fill the vacuum ("Nature's abhorrence," as the old philosophers called it), must also be taken into account. The effect with even a small pump is quite extraordinary. For the foundations of a bridge for the Chester and Holyhead Railway, over a branch of the sea, nineteen piles which were required for the central pier defied the efforts of the ordinary drivers. By means of the process in question, however, they were all easily forced in at the rate of 6 feet in two minutes and a half;—the pile-drivers shaking their heads during the operation, and saying it was time they gave over business!

## REVISION OF THE METROPOLITAN BUILDINGS ACT.

A COMMITTEE, privately nominated by Lord Morpeth, to consider the more glaring evils of the Buildings Act, has had several meetings. It consists of Mr. Hosking, Mr. Poynter, and Mr. Shaw, the official referees; Mr. Pownall and Mr. Aitchison, on the part of the district surveyors; and Mr. Biers and Mr. Piper, on the part of the builders.

It is to be regretted that the public are not represented,—owners of property, and the profession generally, should have had a voice in the recommendations which will go to his lordship and be made the basis, probably, of a legislative measure. We have all confidence in the gentlemen composing the committee, but each of them, it must be apparent, has an interest to serve apart from that of the public.

Those who have suggestions to offer may, with propriety, address the committee through any member of it.

## ON MOSAICS, AS APPLIED TO ARCHITECTURAL DECORATION.*

SHOULD the memorable sentiment originated (I believe) by Victor Hugo, be but true, "que l'histoire de chaque grand pays est inscrite sur ses monuments," it then surely behoves us, if we would read the history of our own and other countries aright, to draw deeply from those inexhaustible fountains of information, and to recollect, that while the purpose and general nature of a nation's monuments best indicate the leading qualities and relative importance of the kingdom, the relics of its minor arts and embellishments define most clearly the peculiar social position and condition of its people.

If we enter at all generally on this examination, we shall find, that each successive phase of civilization has possessed an accompanying cycle of arts, varying in artificial character with the conventionalities incident to a state of elaborate development; and we may thus learn, in some degree, to classify the arts of embellishment, and appropriate each properly to that state of human culture with which it may seem most in harmony.

The history of the art on which it is our pleasing task to enter, briefly, this evening, affords a striking illustration of the truth of this proposition. We trace mosaic, as an eminently luxurious and elaborate embellishment, from its apparent origin in the hotbed of Persian effeminacy, through its comparatively developed state among the Greeks, to its fructification and universal dissemination through the courtly elegance and abandoned luxury of imperial Rome; and recognise the fact, that it was only in connection with this most artificial condition of being that it ever assumed the varied character and universality of employment it then and there obtained.

Introduced in the days of Scylla, about 85 years before Christ, the first purpose to which it was applied was the decoration of the Temple of Fortune at Prænesta, the present Palestrina; we there find, to this very day (corroborating the account Pliny has given to us), that most interesting pavement generally known as the "Palestrina mosaic," in which a curious peculiarity is noticeable clearly indicative of the Grecian origin of the art, namely, that the inscriptions, illustrating the

* Read at the Institute of Architects, by Mr. Matthew Digby Wyatt, on the 1st inst., as mentioned last week.

subject (an inundation of the Nile), are written entirely in Greek characters.

As to trace the changes and alternate progression and declination of mosaic, in anything like historic order, would not only be a more fitting occupation for the archæologist than the architect, but would moreover occupy a far greater amount of time than it will be possible to devote to its illustration to-night, I shall, in preference, proceed to offer to your notice, in the *first* place, a slight analysis of its conditions and capabilities; and, *secondly*, the advantages of so studying its peculiarities, as to enable us most successfully to take advantage of all those salient points which most properly fit it for modern introduction.

The term *mosaic*, in its most extended sense, includes such a union of small portions of the same, or any different materials, as shall, by combination, produce an effect attainable by no other means. As applied to the fine arts, or considered as a minor department of them, it must assume two leading and distinctive forms—the *pictorial*, or that in which the imitation of a picture or other existing object is aimed at; and the *conventional*, or that in which architectural and geometrical forms only are portrayed.

Let us first then briefly examine the nature of *pictorial mosaic*. Among the Romans it soon rose to an unexampled state of popularity: it was adopted as a leading element in all their monumental and domestic decoration, and lined with its polished incrustation alike the walls, the pavements, and the vaults of their temples, baths, and dwellings; in the museums of the Vatican and the Capitol, and in the ruins of temples and baths, at Rome, at Pompeii, Pozzuoli, Baia, and in the gallery of the Studii at Naples, ample evidence still exists of the universality of its employment, of the nature, and varied processes of its production, and of the extensive range of subjects selected for representation. Gods, centaurs, men, animals, landscapes, flowers, ornaments, and foliage, are depicted with equal ability; and we are probably indebted to these almost imperishable relics for the preservation of some of the lovely fancies of the great artists of antiquity, whose creations might have altogether passed away, had they not been recorded through this most durable of all materials; for we must not forget the constant habit of reproduction, among the artists and artizans of antiquity, and refuse to ascribe the invention of the artistic treatment of a legend to a master mind, because we may meet with its representation only in fragments of coarse and perhaps ill-drawn mosaic, or wall-painting.

In examining the nature of these subjects with relation to the positions for which they may have been designed, we cannot fail to be struck with the general congruity existing between the nature of the idea depicted, and the character of the apartment for the adornment of which it may have been destined. Thus, in the houses of Pompeii, we find portrayed in mosaic the faithful dog guarding the threshold, or the hospitable inscription hailing the visitor even in the doorway; in the atrium, or hall, a rich though simple pattern is elaborated; in the triclinium, or dining-room, we meet with the "opus asaroton," or representations of fragments of food, &c., dispersed upon the ground; in the gynæceum, or female apartments, subjects of ornament, foliage, animals, &c., of the greatest delicacy; and in the grottoes for the preservation of the Lares, or household gods, and in the pavements near them, are to be found the noblest subjects and the most admirable works of art. This happy unity of idea is of course enhanced by a similar taste presiding over the distribution of the other pictorial embellishments. What a lesson should not this afford to people who are in the daily habit of decorating their dining-rooms with such prints as Mr. Eastlake's "Christ Mourning over Jerusalem," divided only from its pendant Mr. Landseer's "Laying down the Law," by a highly-coloured portrait of the proprietor's favourite child!

At first, only small cubes of stone and marble were employed, but very soon a want of greater brilliancy of colour than they could afford was felt, and oriental marbles of all kinds, porcelain, and glass, were pressed into the service, and laid upon a plaster backing with a strong lime cement. Many of the specimens yet remaining display an extraordinary delicacy of execution; the mosaic generally known as Pliny's doves, from the subjects consisting of some doves sitting, dressing their feathers, and sipping water from the edge of a metal basin, is probably the most brilliant example. It is right, perhaps, to remark, that the practice of the Romans in employing representations of figures, &c., for pavements, although almost universal among them, and sanctioned, as in the extraordinary pavement, by Beccafumi, in the Cathedral at Sienna, by some of the best masters of the revival of art in Italy, is still a reprehensible one, as it is contrary to all natural feeling to set one's heel upon an irregular surface, still less upon the face of a hero. Mr. Pugin makes, in his 'True Principles,' some admirable remarks on the proper design and peculiarities of pavements, both encaustic and properly mosaic. A right feeling should, I think, confine the employment of pictorial representations in mosaic to walls, and coverings or "revêtements" for vaults and cupolas.

It would occupy us too long to enter into the question of the subdivisions and nomenclature of all the Roman varieties of mosaic, but it is sufficient for us now to remark that they were numerous and various, and obtained in full perfection until about 200 years after Christ, when the art began to decline in both taste and execution, although not probably in popular estimation. When in the year 329 Constantine removed the seat of empire to Constantinople, he probably took many Roman mosaic workers with him, and, through their labours, the first churches erected by him were decorated. From them the art was doubtless handed down traditionally, and in transmission changed its character. The more oriental taste for gold and splendour soon superseded the purer practice of the Romans, and Byzantine glass mosaic started into life.

There seems every reason to believe that for many centuries the Greeks remained the almost exclusive workmen and designers in mosaic, and through their labours Italy and Sicily stand pre-eminent in the possession of churches and baptisteries whose walls are adorned with the gilded ground, and the gorgeously-draped and swarthy-visaged saints, so peculiarly Byzantine in character.

Byzantium, Asia Minor, and the Holy Land, once doubtless possessed many noble specimens of their Christian art, but the elements, wars, fires, and Mahometan whitewash, have deprived us of almost all those sources from whence modern oriental art probably derived much of its inspiration and peculiar character; and it is in connection with this subject that the interesting question arises as to the influence that the early decorative processes may have had in determining the subsequent character of conventional ornament in all styles: thus—the Arabs having at first adopted the general scheme of Byzantine architecture, and among its processes that of mosaic, and from want of drawings of Byzantine details, and of Greek architects, the style having naturally declined in integrity of character, while the mechanical processes would be retained traditionally among the workmen, this very mosaic work, which was at first only a subordinate means of decoration, would become a leading element in the minds of the Mahommetan designers, and, from experiments and combinations made with small geometrical cubes of glass mosaic, they would be led naturally to that elaborately intricate style of pattern, which, when they emerged at length from the influence of Byzantine tradition, became so essential a character of all their compositions. Thus also no doubt did the traditional predilection for mosaic modify most materially, not only the plan and whole structure of the churches erected up to the year 1200 in Italy, but even the minuter details that characterise those monuments, and constitute their style.

Of the principal of these churches which yet retain their ancient mosaics, we extract from Lord Lindsay's most valuable history of Christian art, a chronological list, which appears fully supported by the Chevalier Bünsen, Mr. Gally Knight, and Ciampini. He enumerates those of Santa Sabina, Rome, 425; of Santa Maria Maggiore, 432; Santi Giovanni and Apollinare, at Ravenna, 440; San Lorenzo fuori le Mura, Rome, 578; of Sant' Agnese, Rome, 642; Santi Nereo ed Achille, Rome, 800; Santa Cecilia, Rome, 820; of Sant' Ambrogio, Milan, 836, and of Santa Maria Nuova, Rome, 848.

Lord Lindsay remarks, that from the period of this last date (848), for more than two centuries, scarcely any mosaic work was done in Italy by Greek artists, as it was a season of war, misery, and barbarism, and we accordingly have to look in the commencement of the twelfth century for a revival of the art. We find it in the remarkable example executed in the church of San Clemente at Rome, 1112, and in it a new spirit, thus ably indicated by his lordship:—

"This mosaic is a most elaborate and beautiful performance, yielding to none in minuteness of detail and delicacy of sentiment. It is characterized, moreover, by a resuscitation of the symbolism of early Christianity, so long neglected, although in subordination to one of the traditional dramatic compositions — the crucifixion. On every account, therefore, it merits the most attentive consideration."

From this period, through the gorgeous decorations of St. Mark's, at Venice, of the churches of Monreale, and the Capella Palatina at Palermo, the cathedrals of Cefalu in Sicily, San Giovanni Batista at Florence, those of San Paolo fuori le mura, Santa Maria in Trastevère, San Giovanni Laterano at Rome, and many others, we trace pictorial mosaic of the Byzantine character down to as late, perhaps, as the year 1506.

In all those churches in which full latitude has been given to the employment of this kind of mosaic, such as that of St. Mark's at Venice, or Monreale in Sicily, we find the entire surface of the walls covered with these representations, all executed upon a gold ground, the subjects arranged in a perfect cycle of symbolism, and the conception, treatment, expression, and execution, in some cases of a very noble, in all of a very interesting character. It would be waste of time to expatiate on the effects produced by the system of decoration employed in these two last-mentioned buildings, but I may perhaps be justified in asking, what their appearance would have been now, had they been executed in such a material as fresco; and whether they would still appear as they do now, endowed with the godlike qualities of perpetual youth and beauty?

Nearly coeval with the gradual decline of pictorial mosaic work on the Greek system, started into life two new varieties, the Roman and the Florentine; the former a revival of the ancient Roman "opus vermiculatum," or minutely delicate picture produced by the insertion of the smallest pieces of coloured glass in very close proximity, and by matching their colours perfectly with those of the painting to be copied, reproducing a perfect imitation of it—the latter an attempt on the part of the Florentines to imitate the *modus operandi* of the ancient Roman "opus sectile," or mosaic composed of flat pieces or veneers of variously-coloured marbles, and to execute with such materials only imitations of all sorts of objects. The noblest example now existing of the application of this branch of the art of mosaic to architectural decoration, is probably that of the chapel of the Medici in the church of San Lorenzo at Florence. The most glorious specimen of Roman mosaic similarly applied is to be found in the beautiful decorations of that most magnificent cathedral, St. Peter's. It is this, or a similar mode of fabrication, that Mr. Barry will probably employ in the projected mosaic work in the new Houses of Parliament.

Even to this day both these branches of manufacture continue under royal patronage, and are preserved in their highest perfection in national manufactories both at Rome and Florence.

Turning now from our examination of the general nature of pictorial, to a brief consideration of conventional, or more strictly, architectural mosaic, we shall find, that in pavements, and occasionally on walls, it obtained universally under the Roman empire, principally in the forms of "opus tesselatum" and "opus sectile." The general character of the latter has been already indicated in its mention in connection with the modern Florentine mosaic. The former was composed generally of small cubes of marble, called *tesseræ*, with which all the largest and most important mosaic pavements of a geometric character, at Rome, were constructed; the contrast of colour being usually confined to that produced by black and white marble. Numerous specimens of this

and of some of the other varieties of Roman mosaic have been found in this kingdom, as well as in France, Spain, and other countries of Europe, and the British Museum contains several fragments, which, if not exhibiting a refined delicacy of workmanship or design, convey at least a very tolerable idea of the nature of its ruder work, and of its general appearance.

The geometrical construction of most of the Roman tesselated patterns was based usually on the square and circle, up to the time of Alexander Severus, A.D. 220, who, according to Lampridius, introduced a new variety of mosaic into Italy, the materials of which consisted of porphyry and serpentine, and the base of the design of which was ordinarily that of the hexagon and equilateral triangle. As the other, this was of course chiefly used for pavements, and gradually superseded all other varieties of the art; from the time of Constantine down to the fifteenth century, under the name of *opus Alexandrinum*, it was constantly employed as the almost universal ornamental paving of the Italian churches; and, like the cotemporary glass mosaic, its manufacture remained principally in the hands of the Greeks. Two very beautiful examples of *opus Alexandrinum* yet exist in this country, in both cases doubtless the work of Byzantine or Italian artists,—the one in Westminster Abbey, the other in Canterbury Cathedral. We have thus seen that the Italian architects of the middle ages were in the habit frequently of lining the walls and vaults of their churches with pictorial glass mosaic, and the pavements with this precious tesselation; these several adornments serve to complete the decoration of the *fabric* of their buildings, and it remains, therefore, for us only to notice that elaboration of the mosaic art which was devoted, from the fourth century to the fourteenth, to the embellishment of the subsidiary portions of the architecture and church furniture. This consisted of what was called *opus Græcanicum*, that is, a glass mosaic composed of tesseræ or cubes cut to a regular form, and arranged in such geometric combination as to produce, by the contrast of gold and brilliant colours, the most exquisite and complicated patterns in borders, strings, &c.; and these, when inserted in the marble grooves formed in the pulpits, episcopal and regal thrones, twisted columns, ciboria, tombs, and other articles of church furniture, produced the most gorgeous effect, and, through this process of inlaying, the Greek and Italian artists were enabled to carry out, even to the minutest detail, the general character and spirit of that element (mosaic), which formed the basis of their most extended architectural decoration: thus preserving a unity of style, little regarded in the present day, but most fully worthy of imitation.

We have thus briefly endeavoured to run through the leading elements of the art of mosaic considered as a branch of the fine arts, and we shall proceed to offer a few remarks on its value in connection with æsthetic study. To the student in the art of painting its importance is extreme, as it contains almost the only record of his art from the fourth to the thirteenth century. To those engaged in the study of ancient manuscripts it is of value, as it enables them to approximate to dates, and to test styles at which they could scarcely arrive without its aid. To all interested in the history of ancient stained glass its study is important, as, in the earliest examples of mosaic windows, we find exactly the same principle followed out that we trace in the mosaic wall picture; to the enameller its variations are peculiarly interesting, as for centuries the Greeks were almost the only European artists in that branch of the arts, and in their mosaic enamels they only reproduced in a minute form, those works, which on a large scale decorated the walls of their noblest buildings; and last not least, to the architect, it affords the most durable, and probably the most beautiful means of adding to the charms of well-studied and varied form, the graces of colour; it enables him to study the science of polychromy on the largest scale, and through a series of the most fully-developed experiments, and offers to him, in its geometrical character, a form of design almost unparalleled in decorative resources, that harmonizes alike with the severer forms of monumental style, and the more free and graceful peculiarities of domestic and social requirement.

Whether forming an almost imperishable lining to one of the principal vaults in the British senate-house, or inserted in a marble chimney-piece in a drawing-room of even humble pretensions, the writer of this paper ventures to assert, that if its history, peculiarities, and processes be but rightly studied by the designer, it will be found to constitute a graceful embellishment and harmonious addendum.

But the practical architect may naturally inquire where can the "material," the "tesseræ," the "smalto," the bedding, the proper cements, &c., be found; and are our workmen sufficiently instructed to produce such works? To the first question, it can only be replied, that almost every advantage afforded to the ancient mosaic workers in choice of material, &c., is far exceeded by those of the present day. Through the unremitting attention of Messrs. Pether, Prosser, and Blashfield, as designers and inventors, and that of Messrs. Singer, of Vauxhall Bridge-road, and Minton, of Stoke-upon-Trent, as manufacturers, every article necessary for the execution of the most elaborate mosaic work can be provided; and through the admirable mechanical improvements introduced into the manufacture, such means of ease and regularity have been brought to bear upon the powers of production, as to facilitate in no ordinary degree the elaboration of the most extensive works of this nature. I have every reason to believe that Mr. Minton or Mr. Singer have it in their power to produce, at this present time, could patronage be obtained for their execution, as extensive, and probably as beautiful works, as have ever graced the palmiest days of the art; and I am sure, from the interesting specimens exhibited to-night through the kindness of these gentlemen, that the members of this Institute must perceive the capabilities of this too much neglected branch of architectural study.

M. D. Wyatt.

## ART; — ITS DISTINCTIONS AND PURPOSES RELATIVELY CONSIDERED.

DECORATIVE-ART SOCIETY.

At a meeting on October 27, the second part of a paper on the above subject was read by Mr. Dwyer. In resuming, he wished it to be understood that his plan of treatment sought rather to embody and classify on broad considerations, than to judge of art in its details. Doubtless many differed from his opinions, and he had found prejudice to be the greatest difficulty to overcome in attaining to a proper estimation of art. We ought not, he said, to rely on a floating opinion, that this work is beautiful, or that commonplace,—this high art, or that low and vulgar: we should not be contented to receive all such dogmas as truth, without attempting to understand why or how far the intentions of art are evident to ourselves. Simplicity with purpose, he said, constitutes perfection in art; and although they are the most rarely developed, they are most readily recognized by a spectator. He then inquired, what constitutes historical art? Is it represented by battle scenes, massacres, processions, or reviews? He was of opinion that, in its true and nobler sense, we ought to find a combination of characteristics in persons, time, and place, harmonizing with the event represented, and associated with mental attributes commanding reverential attention, and exciting an appropriate feeling of emulation in the beholder. It is rarely, he observed, that such *desiderata* are supplied in painting, and the accredited substitutes are too generally mere portraits and gatherings from old prints. The recent exhibition at Westminster Hall, professedly of historical art, would, he said, afford examples to convince us how far these principles have been understood and how applied. The picture of "Alfred inciting the Saxons to prevent the Landing of the Danes," displayed a high purpose,—an attempt to shew in a simple fact what our navy once was, and lead us to respect the man who by his genius improved the defences of our country and laid the foundation for our present commercial greatness. Thus, there appeared much food for a reflective mind. On the other hand, "The Battle of Meeanee" could only excite a feeling of horror, and would, in his opinion, be more fitted for the Horse-guards than a decoration in the new palace at Westminster. In "Richard Cœur de Lion forgiving Bertrand de Gourdon," a moral lesson might be discovered —an embodiment of a noble principle in Christianity; while, on the other hand, "Edward's *generosity* to the People of Calais during the Siege of 1346," was too problematical in such respect. Attention was directed to a scriptural picture relating to the "Seven Acts of Mercy," in which the conditions of sickness, hunger, and the houseless, were expressed through the medium of English associations. This the reader considered praiseworthy, as appealing in English garb to English understandings, and thus rendering art more sympathetically urgent to good moral actions. It would be instructive, he said, for all to examine how much of high art, or rather *high purpose*, has emanated through the royal commission. He inferred, that out of much pretension there may be found a very few good works tending to promote the advancement of art. A more extensive acquaintance with the nature of mental emotions, and a greater variety in mental expressions, were mentioned, as being essentials for progress, and that to portray mental capacity in accordance with the *character* depicted, is the essence, or *high* art, as being beyond the capacity of imitative skill. An example such as "The Last Supper," by Leonardo da Vinci, would, it was said, impress an ordinary spectator, at the first glance, with the natural variety shewn in the whole scene; yet the distinctive expressions of each personification are rendered in consonance with the event depicted.

The *decorations* for the new palace at Westminster, according to the comprehensive system laid down by the Fine-Arts Commission, it was observed, afford an unexampled opportunity to artists for gratifying the desires of all who venerate painting only in its noblest workings. He hoped that the term *decorations* would not continue to be misunderstood, misinterpreted, and restricted in its meaning, as hitherto, by artists in general;—that the time had returned when all branches of the arts would be thought honoured in their application as decorations. He would ask, what had lately been the general estimation of a painting on a wall? why, mere ornamentation. Whereas, if stripped from such a position and framed as a picture, it would have been recognised as of fine art, or high art. Again, he remarked, artistic workings in metal, such as jewellery, would, if in marble, take rank as fine art. These false distinctions, the reader contended, had led to an overflow of followers in certain divisions of art called professional, whilst in others, deemed industrial, an equally evident scarcity prevails. A skilful designer for manufactures, he argued, is as much an artist as the painter of landscapes or portraits, and, in his opinion, the designer required for his purposes abilities both mentally and manipulatively superior to the other. He instanced Holbein, who, as a painter of portraits, imitated admirably, but as a designer, he invented nobly;—Quentin Matsys, who, being recognized by artists, owing to his great abilities as a painter, displayed yet greater genius in his ironwork as a blacksmith; but, had he not painted, his name would not have been remembered by artists. Is it just, it was asked, to estimate art thus by clean hands, as it were? or, is it right to place imitative skill above ideal and constructive genius? It was remarked, that the public requires instruction before sound inferences, upon what constitutes great excellence in the arts, can be popular, or an understanding of the parallels in artistic achievements can be fairly sustained. Successful works in art emanate only from a congenial source, and the taste of a nation must always influence their production. He had been much impressed by the opinion, that whatever is truly great or practically useful is always based upon simplicity, while that which is imperfectly understood is usually overloaded with technicalities. The simple outlines of Greek and Etruscan vases, he observed, have caused, perhaps, more abstruse geometrical investigations into conic sections than even the planetary systems; yet, in his opinion, geometry had not been brought to assist art in their formation. He had prepared a few drawings, which were exhibited, to shew how simply the most refined forms are obtainable. From the beautifully curved outlines of leaves generally, he had been induced to make a few tracings, and he had been greatly sur-

prised by the slight modifications necessary to impart that practical result—fine-art design.*

He next spoke of ornamental art, which class, he said, includes works by Raffaelle, P. Veronésé, Tintoret, Rubens, Le Brun, Verrio, and other eminent painters. Sculpture he considered to be the ornamenting accessory to architecture. The ornamental designer has no status with the general public. The application of embellishment is almost unlimited, and nothing which consists of a combination of forms should be deemed beneath the range of art. Art, it was said, has but one general purpose and effect alike intelligible under every aspect; nevertheless, the broad distinctions in its practice, originating in human pride, have sapped its energies, and dissevered its entire frame into fragments, each of which is striving to maintain a separate existence and identity. Mr. Dwyer contended, that as all divisions or kinds of art are for the most part decorative, so then a combination uniting one branch with another, and strengthening all, would be most valuable.

It was then remarked, that it is among the applications of art which have been most perverted and misinterpreted, that remedies are necessary; that the fine arts, as we have been instructed to name them,—architecture, sculpture, and painting,—are each imperfect and incomplete one without the other, and that, nevertheless, their association requires to be presided over and directed by the comprehensive purpose in the result or effect, which is decorative art. As an instance of what he intended to imply, he referred to the new British Museum as a fine specimen of architecture, but quite out of place, and having no harmonious association with anything surrounding it. This had not been the case with the style of building it was displacing, nor is the same deficiency evident in the new palace at Westminster. Indeed, the suggestions which have been entertained with reference to the bridge, are proofs of a far better taste in that quarter. These examples, he said, also show that art is inevitably influenced by contingencies.

The reader remarked that there remained the great distinction between art and its application to arrange. In the one is the object, in the other the means. He had now approached the main difficulty in his subject: how to hold the balance with justice to all interested in the progressive development of the arts. With the Royal Academy of Arts and its accessories on the one hand, and the industrial arts with their commercial importance on the other, where could all meet on neutral ground to discuss and diffuse mutually a more correct appreciation of the beautiful? It would be remembered that each class has its own means and processes to attend to, but even where so many classes have one and a similar purpose, a mutual concentration and co-operation must be conducive to a general success. In conclusion, he hoped the term "decorative art" would soon be better understood as a combination of all pertaining to high art, fine art, and industrial art, in their general purpose of the embodiment of beauty and perfection with all things material.

* We shall engrave a few of these for an early number.

## ARTISTICAL.

Mr. Eastlake, R.A., has resigned the office of keeper of the National Gallery, and Mr. Uwins, R.A., is appointed in his stead. —— It is stated that the sculpture for the pediment of the British Museum has been entrusted to Sir Richard Westmacott, who was supposed to have retired. —— The election of Mr. Sydney Smirke, as an associate of the Royal Academy, last week, is a second acknowledgment that the academy have virtually rescinded the narrow rule which required the candidates for its honours to be members of no other society of the kind, Mr. Smirke being a fellow of the Institute of Architects. Mr. F. R. Pickersgill, whose first notoriety was given him by the Art-Union of London, was the successful candidate for the other vacant associateship. The election of a secretary and a professor of painting will take place at the end of the month. —— We find the following, evidently correct, biographical sketch of Mr. Gibson, R.A., in a country paper:—"Gibson, the sculptor, was born in 1790, at Gyffyn, near Conway, in North Wales, and was the son of a gardener. At an early period he was sent to Liverpool, and apprenticed to a cabinet-maker and carver in wood. He shewed a decided turn for the sculptor's art, and excelled in carving and modelling small wooden figures. A small model in wax of 'Time,' which he executed in his eighteenth year, attracted the notice of Messrs. Franceys, sculptors, of Brownlow-hill, Liverpool. The Messrs. Franceys purchased his indentures, and employed him in the higher branches of their business. Whilst with them, young Gibson executed for Mr. J. Gladstone a bas-relief representing the Seasons, and a Cupid, which is said to be equal to any work of his maturer age. He was noticed by the late W. Roscoe, who procured for him the patronage of Michael Angelo Taylor, then M.P. for Durham. Gibson went to London in 1818, under the auspices of Mr. Taylor, and found immediate employment. He became known to Lord Castlereagh, from whom he received letters of introduction to Canova, and in 1820 he went to Rome for the purpose of study. At Rome he met the Duke of Devonshire, for whom he executed the celebrated Mars and Venus. This work attracted the notice of the King of Bavaria, who gave him general commissions, and since then he has rapidly advanced to a first place amongst British sculptors. His last work is the statue of Huskisson, recently erected at Liverpool."——Gibson's original statue of Huskisson will be placed in the London Exchange.——The late Mr. Henry Howard had been a full member of the Royal Academy nearly forty years, having been elected in 1808. He was made an associate in 1801. He was the oldest member, with the exception of the president, Sir Martin Shee, who was elected in 1800, and Mr. Turner, who dates from 1802. Sir Robert Smirke, Mr. Ward, and Sir R. Westmacott, who were all elected in 1812, stand next in seniority.—— Mr. M. L. Watson, the sculptor, who died on the 28th ult., aged forty-three, was articled to a solicitor, but found art a more engrossing pursuit, and thought he might effect greater deeds out of the office than in it. Flaxman helped him: he went to Italy, stayed three years, returned, spent his last shilling, and was then engaged by Chantrey as a modeller. Not obtaining an advance of wages when he sought it, he left Chantrey, and was first engaged by Mr. Baily, afterwards by Mr. Behnes,—and then tried once more on his own account. "At this time," says the *Athenæum* of the 6th inst., which contains an interesting notice of the sculptor's progress, "Chantrey died; and on Allan Cunningham's recommendation, Lord Eldon was pleased to entrust the two colossal statues of the late Lords Eldon and Stowell—one of Chantrey's last and largest commissions—to Mr. Watson for completion. Chantrey had done nothing to the work beyond a few indications on paper; and the two statues—which are now, we are told, fast rising from the marble—were designed under the superintendence of Allan Cunningham, modelled, and since completed in plaster and part in marble by Mr. Watson. Another of his better works (for he was only rising into reputation at his death), is a full-sized portrait statue of Flaxman, modelled in 1843, and transferred to marble at the request of a committee, consisting of the Marquis of Lansdowne, Mr. Rogers, Mr. Hallam, Mr. Eastlake, Mr. Barry, and other well-known connoisseurs and artists." He is perhaps best known by the clever bas-relief on the Hall of Commerce, in Threadneedle-street: he was employed at the time of his death on a bas-relief for the unlucky Nelson monument.——The death of the Perthshire sculptor, Anderson, whose Tam O'Shanter is well known, was caused, in Liverpool, by typhus fever.——Sir Robert Kane recently made the curious statement to Lord Clarendon, in Dublin, that the present Act of Parliament for the protection of the copyright of designs was first set on foot, and obtained, through the instrumentality of Sir Emerson Tennent, by an Irish house, Messrs. Henry, of Islandbridge, to protect Irish designs from being pirated and adopted as French by the Manchester houses! The act was made, of course, imperial, but its original object was, as stated, to protect the designs produced in Ireland.

Stain for New Oak.—Fresh lime-water is said to be a good stain for new oak.

## RAILWAY JOTTINGS.

Improvements in 'the break' are still in course of constant and repeated suggestion; 'yet even of these,' says a contemporary, 'but few have come into use,—the greater part of the railways still employing the old form through the influence of their *eminent engineers*, who cannot bear the introduction of any inventions but their own, however superior they may be. We have this week inspected a new kind of break, patented by a Mr. Lee, and now being taken up by a company, with offices, in Moorgate-street. It consists of a break-block beneath each wheel, or one pair of wheels, of a certain number of carriages in a train, as may be required. This block is attached by connecting rods to a lever, working an the axle as a fulcrum. From the top of this lever a connecting rod leads to a bent lever, on the extreme end of which is another connection rod, with a screw-box on the end, which is raised or lowered by the guard on the top of the carriage, turning a winch handle, by which the break is either pressed with great force on the rail under the wheel, or put out of gear. The plan was in operation on the Croydon line for twenty weeks, when, we are assured, it was found to have eleven times greater breakage-power than the old break; and a train, going at the rate of from thirty to forty miles an hour, could be stopped in less than 100 yards, without the passengers being aware that the breaks had been applied. This break can also be put into action, in right of the same patent, by a buffer acting upon a rod and spring, whereby the train stops itself; it can also be applied by the engine-driver, in cases of extreme danger, by a steam-pipe from the boiler, *stopping the last carriage first,—thus preventing the slightest collision.* We understand a testimonial, expressive of its merits, was signed by nine guards who had used it. When we consider that it was sworn in evidence, on the inquest on the bodies of the sufferers at the Wolverton accident, that a train could not at that velocity be stopped under 500 yards, it is clear that, if directors will not adopt proper safety principles, when offered to them, it becomes a duty devolving on the public to compel their adoption.'——The *New York Sun* describes a 'railroad sprinkler' in use on the Stonington Railway for "watering the track and road bed, thereby diminishing the friction of the cars upon the track, preventing the boxes and journals from being heated, by keeping away the dust, preserving the paint and varnish by not having to clean the cars so often, relieving the passengers from great annoyance, and taking from the breakmen a large share of their labour at the through stations. This improvement has been very popular with travellers. It requires about 2,000 gallons for the Stonington Railroad (forty-seven and a half miles). The machine is attached to the train behind the usual water-tank, and is under the control of the engine man by a rope attached to a valve, which he shuts and opens at pleasure."—— The suspension of works in various quarters is still in progress. Besides the notice which one contractor on the Great Western lately gave to 1,400 men, the company are about to discharge 350 more at New Swindon.——The works of the South Wales line have been suspended in Pembrokeshire, from uncertainty of the precise direction in which to proceed with the line, it is said. At Newport, however, the works on this line have been suspended in consequence of the pressure, and about 400 men, it is said, discharged, although the contractors have sent a number of their 'navvies' to push on the contract at Bridgend. The force at Stow Hill Tunnel, too, is to be reduced.——A partial suspension of the works on the East Lancashire, at Burnley, took place on Monday week. It is said that Messrs Hattersley intend to employ none but their best and steadiest workmen during the winter.—— Orders have been issued, it is said, to suspend for a time the prosecution of the works on the Blackburn, Clitheroe, and North-Western Extension Branch of the Bolton, Blackburn, Clitheroe, and West Yorkshire Railway Company.——It is said that one great railway contractor has more than 7,000,000*l.* of contracts incomplete at this moment; and, although 2,000 workmen have recently been discharged from his employ, he yet pays 50,000*l.* a week in wages alone.

## NOTES IN THE PROVINCES.

The Windsor improvements are to be delayed, it is rumoured, till the Government can conveniently provide the 200,000*l.* necessary for their accomplishment.——The second graving dock at Southampton is almost completed. This piece of brickwork must have required some little skill in 'naval architecture,' for it is 'turned to the shape of a ship's hull.' It is relieved with masonry, and the cost is not more than a third of what it would have been if built of stone.——The Portland Harbour of Refuge is going on swimmingly. An addition of 100 men has just been made to the working corps of 200, previously engaged, and from time to time it will be further greatly augmented.——The Newport waterworks are in rapid progress, and the force of the water has been proved sufficient to supply the chamber story of every building in the upper part of the town.——The alterations and improvements of St. Julian's Church, Shrewsbury, are now nearly completed. A tablet has been erected in commemoration of the Rev. R. Scott's 'generous spirit and noble liberality,' detailing that he had caused an effective architectural character to be given to the exterior of the south side of this sacred edifice, and had added stone piers, pilasters, portals, &c., erected an ornamental stone wall and parapet round the churchyard, flagged and paved areas and footways, renewed steps, roofed the chancel, painted, cleansed, &c. The architectural improvements were designed and executed by Mr. Dodson, of Shrewsbury. The work has latterly been completed by the removal of the lobby roof, and the isolation of the old tower from the body of the building thus effected.——In complaining of the burial of the proposed cemetery, at Cambridge, in apparent oblivion, a correspondent of the *Cambridge Chronicle* remarks, that "it is rather remarkable, and not very consolatory to remark, that in this renowned place building projects are not only expensive, as compared with the like in other places, but also very slow of execution."——The Roman Catholic chapel in Willow-lane, Norwich, has been renovated and embellished. The interior, says the *Norwich Chronicle*, has been gorgeously decorated in the Byzantine style, under the superintendence of Mr. Bulmer. In the windows, ten in number, stained glass has been placed, throwing a sombre and subdued light into the chapel. The entire ceiling and the walls of the edifice, the pilasters, the window splays and organ pipes, have been decorated, and all the furniture of the chapel is of corresponding description. In regard to decorations and embellishments, they say, no church or chapel in this eastern district can be at all compared with this building.——Besides the recasing and restoring of St. Luke's Chapel, at the Norwich Cathedral, by Messrs. Brown and Kerr, the cathedral architects, three Norman windows have been substituted for the mullioned nondescripts formerly introduced, and the whole crowned with the Norman coping, of the pattern recovered by Professor Willis, in Ely Cathedral. Into the east, north, and west upper windows of the great lantern tower, eight canopied figures in painted glass, by the late Mr. Yarington, have been introduced. The painted window at the eastern end of the triforium has been recently removed to the south transept, and replaced by a Norman arch, executed by Mr. James Watson, under the direction of Mr. Brown. In this arch Mr. Warrington has placed a memorial window of a Norman character, from the original example in the north window of Brayborne Church, in Kent.——The corporation, it seems, says the *Lincolnshire Times*, have found it impossible to carry out their design of providing a public cemetery, as not only the consent of bishop and clergy, but of residents in the vicinity, as well as the owners of the property pitched upon, might prevent the obtaining of the Act.

---

Surrey and East Kent Sewers.—A correspondent calls our attention to an extensive work now being performed under the Commissioners of Sewers for Surrey and Kent, in arching over the river Effra, or, as it is called, Brixton Washway; on which 200 men are daily employed. Mr. Joseph Gwilt is the surveyor, and Mr. Munday the contractor.

## WESTMINSTER COURT OF SEWERS.

A general court was held on Friday, Nov. 5; Capt. Geo. Bague, R.N., in the chair.

*The Sanatory Commission at Gwydyr House.*—The clerk read a letter from Mr. Austin, the secretary to the Metropolitan Sanatory Commission, now sitting at Gwydyr House, asking the permission of this court that Colonel Hall, clerk of the Ordnance, may be at liberty to inspect the plans, sections, &c., of the Westminster Commission of Sewers. A further request was made for a list of the commissioners, with the professions and qualifications of those who had transacted the business of the court for the last seven years.

The chairman said he was given to understand that this was the body which was to seal the doom of the present commissioners.

Mr. Branscombe thought that whatever arrangement was made, the business of the court would not be performed so economically. He had, however, been told that they would not last till Christmas, and that one of their present commissioners was to be appointed as the head of the new body, at a fixed salary.

*Rating the Great-Western Railway.*—Mr. Justins, clerk to Messrs. Mapleson and Co., solicitors to the Great-Western Railway Company, presented himself to appeal against the sewer-rate charged upon that company, amounting to 96*l.* In support of this appeal Mr. Justins stated, that no poor-rate exists for the premises of the company at Paddington. An action had been entered by the parochial authorities for the recovery of the rate, but shortly before the time of trial the record had been withdrawn, and the question had been agreed to be referred to arbitration. Therefore, he contended, that as no poor-rate had been made, no sewer-rates could be founded on a rate that had no legal existence. The ground of resistance of the Great-Western Railway Company was, that in the early part of the year 1844 they were rated to the poor-rates for 3,000*l.*, but in the latter part of the same year a second rate was made, taking the extraordinary leap from 3,000*l.* to 7,650*l.*, which the company refused to pay, and the parish officers seized one of the railway engines. The company replevied, and the question was carried to one of the superior courts, when the record was withdrawn, and an application made that the proceedings be stayed; at the same time agreeing to submit the matter to the arbitration of Mr. G. F. Pollock, whose award would bind all parties. Under these circumstances, he was of opinion that no sewer-rate could be claimed based upon this disputed calculation.

Mr. Harrison said the court was not bound by this hypothesis, and had nothing to do with the dispute between the parish and the company. A request might be made, that the collection of the sewer-rate be postponed, but a protest against it could not be received.

Mr. Justins acceded to the suggestion of the hon. commissioner, and prayed that the collection of the sewer-rate might be suspended until the award of Mr. Pollock was made. The company had been for nearly twelve months producing evidence before the arbitrator, and, *pendente lite*, no rates had been paid. The last rate was paid in 1844, but he thought the whole question would be brought to a close in the present term.

The suggestion of Mr. Harrison was then embodied in a motion, and carried unanimously.

The court then proceeded to open tenders for 194 feet of sewer at South End, Kensington, which were as follow:—

| | |
|---|---|
| Norton and Son ..... | £144 |
| R. Robinson ..... | 109 |
| J. and S. Williams ..... | 108 |
| Yeoman ..... | 108 |
| Perkins ..... | 98 |
| Hutton (accepted) ..... | 95 |

A letter was received from a Mrs. Webb, occupying premises opposite St. Luke's Church, Chelsea, setting forth that, wishing to drain her house into the sewer, she applied to this court to know to whom it belonged, when she was informed that it was the property of the Chelsea Church commissioners, to whom she paid about 10*l.* for the required accommodation. Since then she had been waited upon by Mr. Farlar's agent, making a demand of upwards of 19*l.* for this privilege on behalf of a Mr. Gigner, stating that the sewer really belonged to him, and not to the church commissioners. She had subsequently been served with a writ of trial in the Marshalsea Court for the amount, and now sought the advice of this court under the circumstances, as she had acted on the information received from their officers.

This subject led to a long discussion, and it was finally resolved, on the motion of Mr. Le Breton, by a majority of 16 to 8, that as Mrs. Webb had acted on the advice received from the officers of this court, that their solicitor do defend the action of Mr. Gigner against Mrs. Webb, and take such steps as he may deem expedient.

*The Drainage of Long Acre.*—Mr. Le Breton said he had great pleasure in moving that the order of court for building 1,825 feet of sewer in Long Acre, be sanctioned and confirmed.

Mr. Hawkes did not approve of the plan, but believed the work so desirable that he should not oppose it.

The clerk wished to know whether the owners of the property were to be charged as the work went on, or that they should wait till it was completed.

It appeared to be the general opinion that, before any contribution was required, the work should be finished.—The order was then sanctioned unanimously.

*The Powers of the Commission.*—The solicitor of the court produced the opinion of the Attorney-general and Mr. Bovill on a case ordered to be submitted to them by the last court, in reference to a question put by Mr. Carter, a notice of which appeared in The Builder of the 30th ult. The opinion was as follows:—

"We are of opinion, that under the Act of the 10 & 11 Vict., contributions can be obtained from persons who may hereafter avail themselves of sewers then existing, only where such sewers have been constructed within thirty-five years *before* the passing of the Act; and that in those cases the remedy for enforcing contributions will be by an order of the commissioners so provided under the seventh section of the recited statute; but we think the commissioners ought not to direct the payment of such contribution by instalments.

"With respect to sewers constructed *after* the passing of the Act, we think the commissioners can enforce contribution under that statute only where they have themselves constructed the sewer, and by charging the owners of the frontage under the provisions of the ninth section; but there may also be cases in which the commissioners might be able to effect some beneficial arrangements under the former statutes and bye-laws.

"We are also of opinion that, under the late Act, the commissioners may take upon themselves the formation of the drains for private houses to the sewer, but that in such cases they would not be entitled to charge the expense upon the owners or occupiers of the property so drained, or to include in it the frontage proportion payable in respect of the sewer. "John Jervis,

"Temple, Nov. 3, 1847. William Bovill."

The case and opinion were ordered to be printed and laid before the court.

The court sanctioned an order for 1,130 feet of sewer in Newman-street, Marylebone.

Several letters were received from Mr. Farlar, calling upon the court to put in force the powers of the Act, by compelling parties resident in Robert's-place to drain their houses into the sewer, so that he might obtain a return of the money advanced by him in its formation.

Mr. Hawkes said it was the bounden duty of those who obtained the Act to carry it out for the public benefit.

Mr. Willoughby deprecated any commissioner calling upon this court to put in operation the powers of the Act for any particular place, as, whenever they were required, it might be deemed necessary to include a whole district. He should therefore move that the report be laid on the table.

The chairman was of opinion that a day weekly should be set apart for the consideration of any letters that might be received, which, as he some time ago anticipated, now accumulated to a great degree. As he was upon his legs he wished to advert to the expiration of the commission, and, unless it were renewed, it would merge into the hands of the county magistrates, any six of whom might attend to do the business of the commission.

Mr. T. L. Donaldson said it was highly necessary to secure parties a return of their money laid out for the public good, and he thought the clerk or the solicitor should lay down some plan for the consideration of these cases, or that they should appoint a special day to consider the whole question.

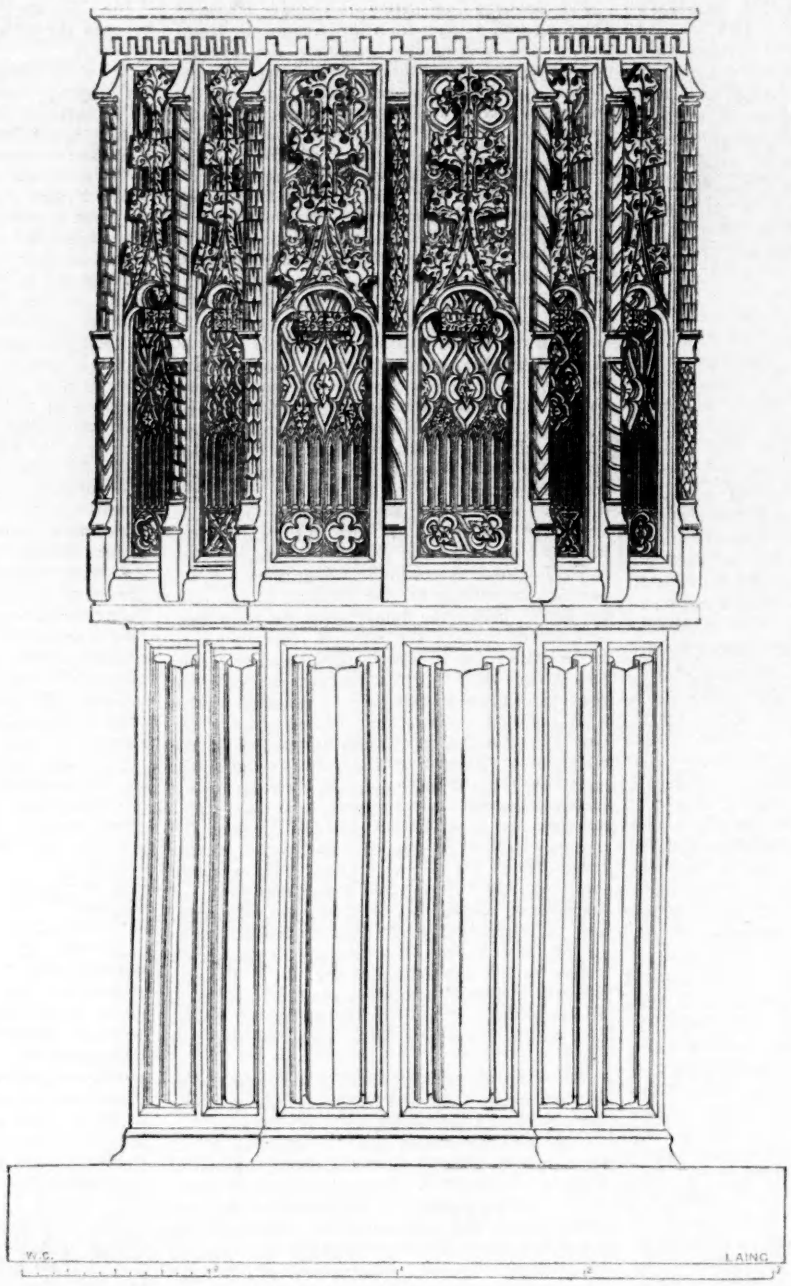
The matter then dropped.

In reference to the termination of the commission alluded to by the chairman, the clerk was ordered to communicate with the secretary to the Lord Chancellor upon the subject.

The clerk brought under the notice of the court the application of the Sewage Manure Company, as to a proposed conduit from the Ranelagh sewer by Sloane-square to the Counter's-creek sewer by Stanley-bridge, and, after some discussion, he was ordered to communicate to the Sewage Manure Company that the notices were irregular and not in conformity with the Act of Parliament.

A rate of 3d. in the pound was ordered on the eastern division of Westminster sewers.

The surveyor presented a report on the drainage of Cumberland-street, Grey's-place, Bull's-garden, &c., Chelsea, which represented the existing state as of a most pestilential character, and proposed to remedy the same by building two new sewers, and arching over or entirely filling in an old one; the whole of which improvement he estimated at 590*l.*—The report was adopted.



CARVED FONT CASE, IN NEWINGTON CHURCH, KENT.

## CARVED FONT CASE, NEWINGTON KENT.

SIR,—Few persons will be inclined to dispute the soundness of the advice often given in your pages, as to the benefit to be derived from seeing the interior of every church which you may be near. Business frequently taking me to different parts of the country, I seldom omit examining the interior of every church near the place in which I may be staying for the time, and it is really surprising how great a mass of information may be thus obtained: however unpromising the outward appearance may be, it is rare but something valuable may be found in the interior, sometimes merely a moulding, or the capital and base of a pier, at others a good piscina or sedilia, in many churches a handsome font, and occasionally a font-case, such as that forming the accompanying illustration. This very curious article of church furniture (if I may so call it) is in the church at Newington, in Kent, a small village about three miles from Hythe (which latter place, by the way, has a church well worth a special visit, the chancel being a beautiful specimen of early English, with a good undercroft in the same style). Newington Church is in a miserable state, encumbered with unsightly pews and huge galleries, green with damp at the lower part of the walls, and covered with whitewash on the other parts—in fact, with nothing worthy of notice, except the font-case, which is a very curious and fine specimen of late wood carving. At first sight it has every appearance of a pulpit, being about the same height, and placed against one of the piers of the nave. It is of oak, hexagonal in plan, and I am sorry to add, painted and varnished. Two of the sides form the door, which opening much after the fashion of a corner cupboard, discloses the font, a perfectly plain piece of masonry, reaching about half the height of the case. The top moulding of the case is evidently of a more recent date than the rest of the work, and I am inclined to think that there has been some more important termination which has been destroyed. Another of these cases, very similar to that at Newington, may be found in the adjoining parish church of Cheriton, and a third at Ticehurst, in Sussex, where the case is panelled on both sides, and of which you gave an engraving of one of the interior panels lately. Here the oak is left in its natural state, without any embellishment from paint. It may be as well to add that Ticehurst Church has a good tower and north porch, some tolerable windows, and very good piers and arches in the nave, but the whole building is much in want of repair.

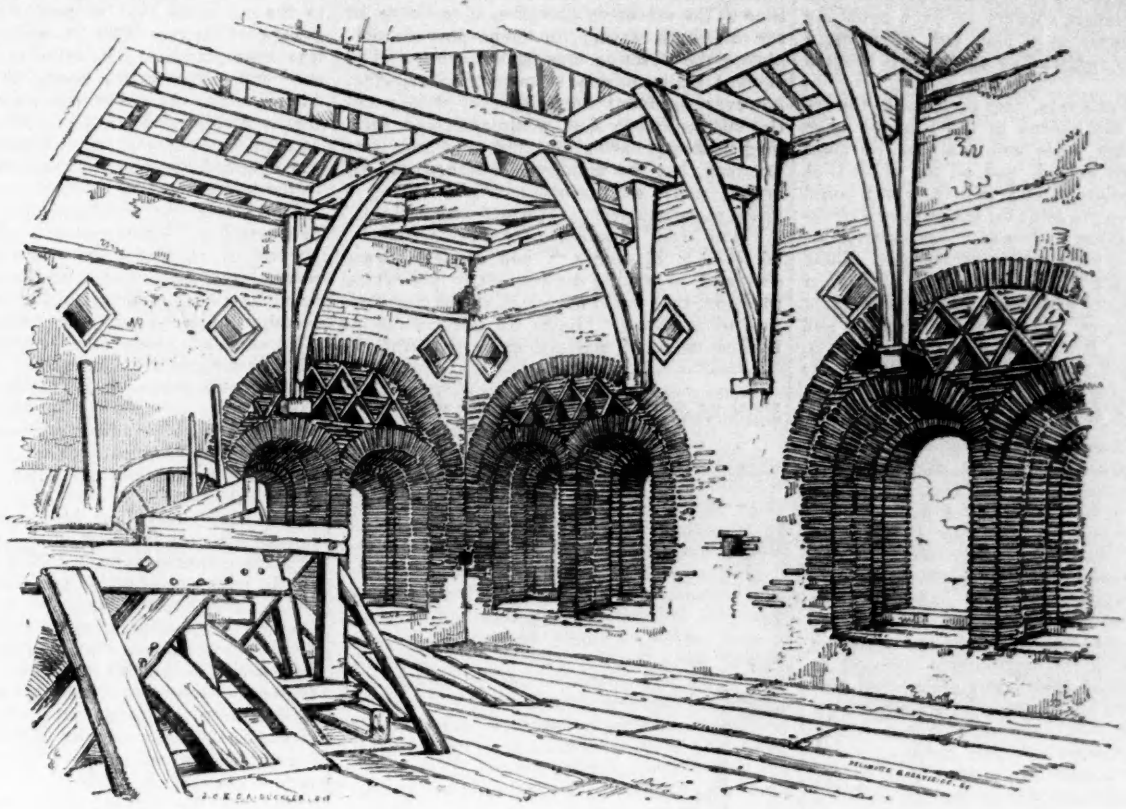
WM. CAVELER.

## THE EARLY ARCHITECTURE OF ST. ALBAN'S ABBEY CHURCH.

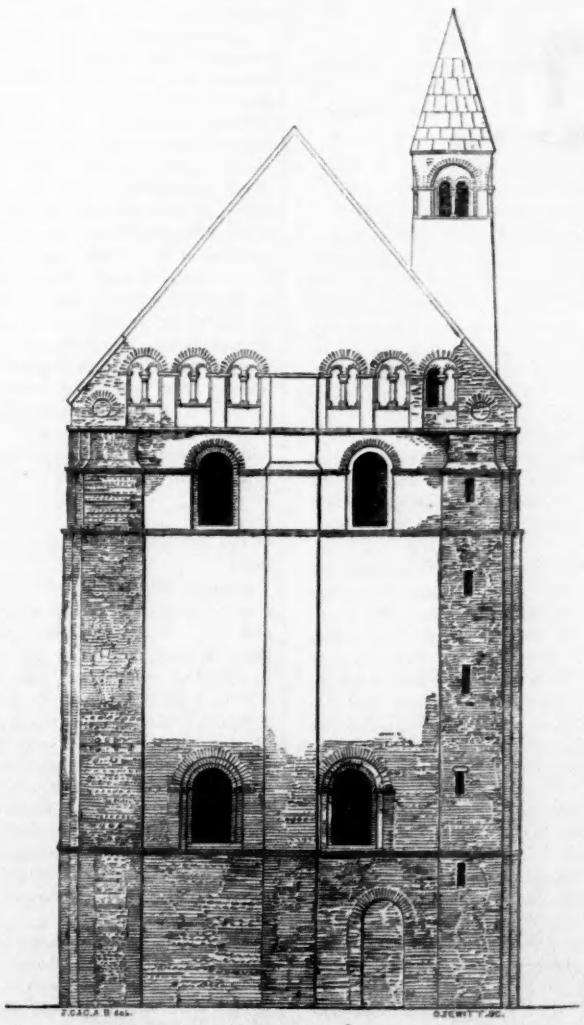
So long ago as 1833 the Messrs. Buckler, well known as zealous antiquaries, intimated, in the *Gentleman's Magazine*, their intention of publishing an inquiry into the history of the Norman architecture of St. Alban's Abbey Church. This intention they have now realized; and in doing so, they have produced a very important volume, and made clear several interesting points, especially this, that there were two towers at the west end.* "No conjecture," say our authors, "as to the former existence of towers in union with the west front was ever promulgated,—a fact which would not be deemed remarkable if it were not for the elaborate and valuable engravings of this church published in the year 1810 by the Society of Antiquaries, in which the fragments of the one towards the south are accurately delineated, but evidently without having been understood. That the same relics should up to this time have escaped recognition as having belonged to a tower is perhaps not wonderful, on account of their partial concealment by the walls of a dwelling-house, which has been at-

* "A History of the Architecture of the Abbey Church of St. Alban, with especial reference to the Norman Structure." By I. C. Buckler and C. A. Buckler. Longman and Co., Paternoster-row, 1847.

## THE EARLY ARCHITECTURE OF ST. ALBAN'S ABBEY CHURCH.



INTERIOR VIEW OF THE BELFRY.



ELEVATION OF NORTH TRANSEPT.

tached to the church in the particular situation referred to."

The Norman portion of the existing edifice was commenced about 1077, on the site of a previous church built in the eighth century, and was dedicated in 1115. When seen in its full proportions, "with its three towers, the central one augmented in height and beauty of appearance by its lofty octagonal lantern and tapering pinnacles," it must have been an imposing edifice, and a striking feature in the landscape. The length in the clear from west to east was 440 feet, terminating in an apse, and the transept from north to south was 176 feet, and had apsidal chapels on the east side.

"The visible remains of the church whose general figure we have just described, are portions of the aisles and side walls of the sanctuary, the transept and lantern tower, three entire bays on each side of the choir, and six on the north side of the nave.

Particular regard seems to have been paid to laying out the plan of the church, and fixing the subdivisions for the positions of the piers; and measurement proves that this part of the work was performed with such ability, that only slight deviations from accuracy and uniformity occur—points which were not to be so easily maintained in carrying up the work. An exception to the former remark must not be overlooked, a regularly increased width having been given to the north transept from its junction with the tower to the opposite extremity; but with respect to the superficies of the walls and pilasters, and their retreating members, obedience to the line and rule was by no means strict; and as the discrepancies in the structure were not concealed by the application of the cement, considerable irregularity is found to prevail upon a near examination of the interior."

Messrs. Buckler remark, "that the subdivision of the width between the walls into nave and aisles was made with considerable attention to exactness, and the result is a handsome proportion in the spaces formed by the piers of the arcades; a line passing through the centre of these in a longitudinal direction, gives to the nave one-half of the entire breadth, the symmetry of the avenues being preserved by the equal division of the piers upon the imaginary limit; but this

scale, which may also be discovered in the plans of other Norman churches, does not, in the present instance, apply with any precision to the rest of the design."

It was not thus, however, that this church was proportioned by its original builders. The equilateral triangle appears to have been the figure that regulated its plan, and, when tested by this, some remarkable agreements become apparent.

Matthew Paris says, that previous to the rebuilding of the church at the time we have mentioned, the walls and vaults of Verulam were carefully sorted, and all the whole tiles and stones, columns and tablets, which could be found, were put aside for the proposed structure. The building as now seen, agrees with this statement in a very interesting manner. Some of the walls are of flint, with layers of Roman brick, at unequal distances, and others present irregular masses of stone and bricks, and cement. The Roman mode of construction, as exemplified in the walls of Verulam, was adopted in a degree as well as the materials.

Brick and stone are curiously intermixed, the former being covered with cement to obtain the required profile and appearance.

"A rare example of the union of stone and brick, in the cornice of the parapet of the clerestory on the south side, must be named, it having been added to the Norman wall, at the time of the extensive alteration of the nave, in the thirteenth century, for the purpose of completing the elevation thus far uniformly. The ancient material was at no period rejected, however abundant the supply of stone; and this cornice, when first completed, and for a long time afterwards, appeared to be wholly of masonry, but the mouldings and corbels only are of stone, all the other members being of brick, cased and perfectly formed with cement."

"The brick is mostly of one size, namely, 16 × 12 × 1½ inches;* and no less regard was paid to lapping the courses, or preserving the bond, than could have been in the construction of masonry. Hence we observe the influence that the material exercised over the design: the retreating members on the angles of the piers and arches, and on the pilasters standing in advance of the walls, are in proportion to the measure of the slabs. Brick of a still larger superficial dimension than that just named appears occasionally, particularly in the staircases, but in point of substance it generally varies. This inequality, however, was unimportant; the concrete mortar was used with an unsparing hand, and with a confidence which shewed perfect reliance upon its temper for duration; and in cases of disparity, an approach to a level line in laying the courses was obtained by giving more or less substance to the joints.

* A brick of these dimensions, extricated from a bank by the road passing over the site of Verulam, is preserved at Oatlands; its weight is 21 lbs.

The bricks vary in shape and durability in proportion to their exposure to the fire in the process of burning. Many are vitrified and warped by excessive heat, and but few are observed to have yielded to the action of the weather upon the exterior of the building. The earth of which they were made was evidently prepared with great care: their texture is close and fine, and the hardness such that they seem as durable as the flint with which they have been so admirably combined in the walls. They are mostly of a deep red colour, but many in the interior of the belfry are of white earth.

The supply lasted at least as long as it was required for the building, every part of which, in all its essential features, from the foundation to the uppermost finishings of the walls, even to the parapet of the tower, is of tile-brick, so that the original intention in this respect was fully accomplished; and it was not until a later period, and under the influence of another style of architecture, that we observe the introduction of solid masonry without any admixture of brick, except as forming one of the ingredients of the rubble-work of which the core of the walls consists."

Several *flue bricks*, built up among the courses, have been accidentally disclosed, also others of peculiar shapes: some have had bosses, or handles, in the centre, as if intended to be used as covers for apertures.

"The staircases and galleries, or passages, formed in the thickness of the walls, exhibit ingenious and very interesting specimens of construction in perfect preservation.

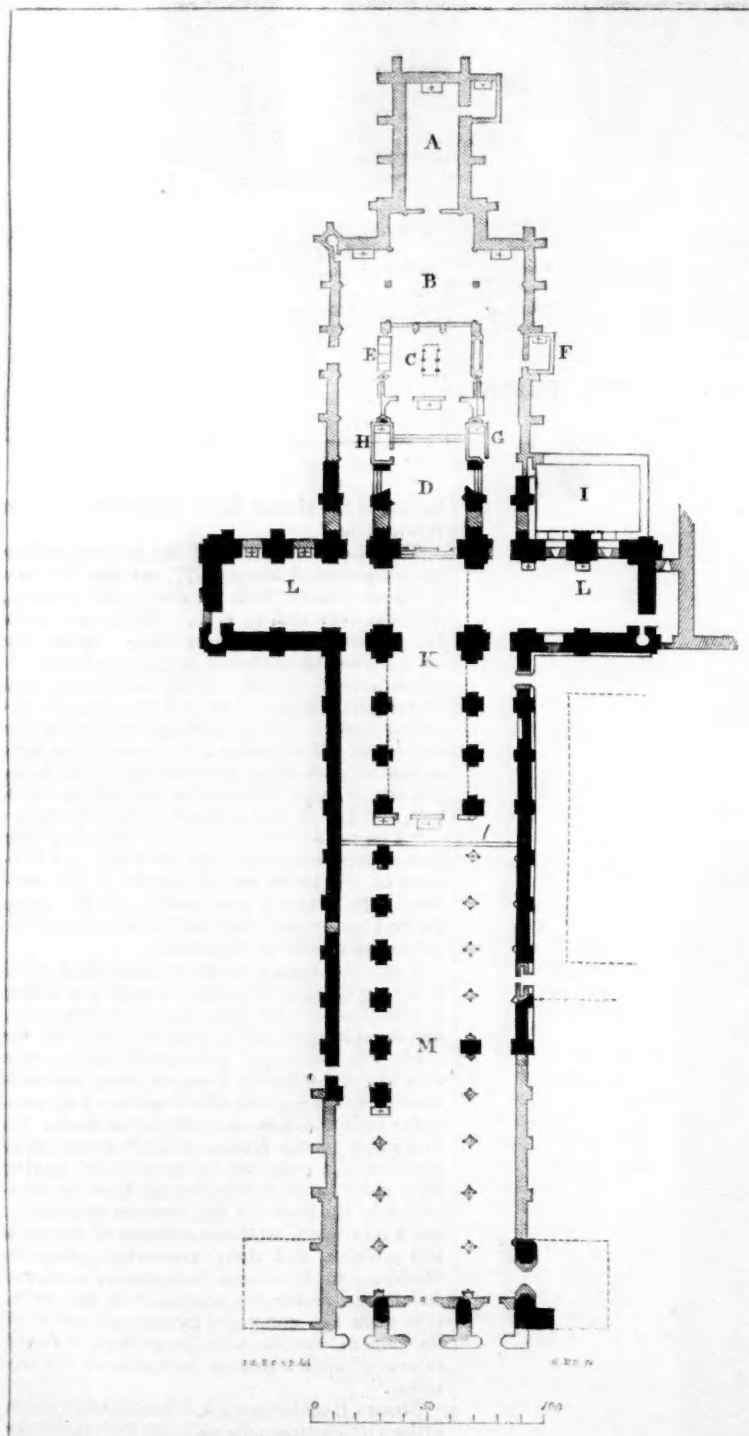
The circular shafts in the extreme western angles of the transepts, terminating with turrets above the parapet, are nearly 7 feet in diameter, with newels of the same figure, but of different sizes, the larger towards the north being 7 feet in circumference.

The spiral form of the under side of the steps, springing from the newel by a most clever application of the material, cannot fail to attract attention; the process by which this portion of the construction was advanced may be distinctly traced. The staircase was built to a certain height, upon a cradle or frame of wood, which was moved, or, as it may properly be described, screwed upwards, and as the work proceeded so the centre was raised. The boards fixed upon this spirally-formed frame in order to complete its figure, and immediately upon which the brickwork rested, were three and four inches wide, lapped and wedge-shapen, in lengths of 14 and 18 inches, alternately arranged. The mortar with which the new work was overspread, retains the impression of the boards, and perfect freshness of appearance."

Messrs. Buckler dwell at some length on the employment of a cement as a facing both inside and out. They consider that "the employment of composition or cement for the purpose of defining ornaments and mouldings, if not coeval with ecclesiastical architecture, was at least applied with this important object in some of our most ancient churches; and though, perhaps, in no other instance to the extent in which we view it in that of St. Alban's Abbey, yet many interesting examples might be referred to as illustrative either of the remoteness of its antiquity, or the value that was attached to it, and also as exhibiting the naked forms upon which the ornamental features were produced."

Of the painting with which the interior was adorned, the rich shrines, as described by Matthew Paris, and other details, our authors give a full account, and illustrate the appearance of the Norman church by a ground plan and various diagrams.

"It has been discovered that the floor of the church was originally paved with tiles made




REFERENCES TO PLAN OF THE CHURCH.

A Lady Chapel.
B Eastern Aisle.
C Perctory.
D Sanctuary.
E Watching Loft.
F Duke of Gloucester's Chantry.
G Abbot Wheathamstead's Chantry.
H Abbot Ramryge's Chantry.
I Sacristry.
K Choir.
L L Transept.
M Nave.

for the purpose on the spot, and consisting of gravel, broken brick, and lime,—a most durable composition, and a very serviceable appropriation of the refuse materials produced by the excavations, as well as by the operations of the workmen during the progress of the building. Many fragments have been found under the present floor in every part of the interior, shewing that the tiles were six inches square, and one in thickness, with no other polish than that conferred upon them by use. Next to these in point of date, and brought to view at the same time, are tiles 3¼ inches square, with a plain jet black surface, similar to those still remaining on the high altar-piece in the choir of Fountains Abbey."

Our authors then proceed to describe the various alterations and the additions that were made in succeeding times: these were begun as early as the reign of King John, when the west front was taken down for the purpose of being rebuilt, and remained long in ruins. William de Trumpington, who died in 1235, did much towards the completion of the church, including, as the chronicler writes, —"a certain covering (which is commonly called labreschura, or ceiling), with which he concealed the row of timbers above the famous image of the Blessed Virgin, lest the antiquity of the rafters or beams should offend the eyes of beholders; for a similar reason he also whitened the walls of a great part of the church, which the long-continued filth of dust had disfigured; so that if he had completed what he began, by a pleasing change he would have renewed the time-worn church."

The annexed plan (Fig. 1), taken from Messrs. Buckler's work, shews the church as it now is, the darkened portions indicating the early parts of the building which remain. The whole length from east to west, according to the account published by the Society of Antiquaries, with John Carter's drawings, is 600 feet.

Fig. 2 is an elevation of the north transept, shewing the *cone* which terminated the staircase turret, and the tier of blank arches which ornamented the lower part of the gable.

Fig. 3 represents the interior of the belfry: "never having been covered with cement, this chamber exhibits most fully the construction of its walls; the brickwork of which they consist is carried, in regular courses, through the deep reveals of all the openings to the exterior. The peculiar formation of the interior arches of the windows, and the various ornamental piercings on the sides, are not so easily described as represented with the pencil, and the view in the interior, shewing these curious particulars of the Norman brickwork, and at the same time the ancient timber framing by which the spire was supported, may be deemed useful and interesting."

The church under consideration has so many singularities and beauties, that all students and lovers of our ancient architecture should visit and examine it for themselves, taking with them Messrs. Buckler's volume as a suggestive and valuable guide.

---

CHANGES IN LINCOLN.—In almost every quarter of the city houses are being erected, says the *Cambridge Chronicle*. The county prison is in the course of rebuilding, for the purpose of carrying out the separate system. A new deanery is commenced. The old houses which hemmed in the county hospital are being pulled down. The London and York Company are completing the exterior of a large hotel. The London and York and Great Grimsby and Sheffield lines, with the various subsidiary works (such as bridges), are being constructed. A new covered market is in the course of formation. Small streets have been formed, and others are forming. The water company are proceeding rapidly with their works for supplying the city with water. A proprietary mill has been commenced. The new cattle markets, with an adjacent inn, have just been completed. The committee appointed to select a site for the public cemetery, have, it is stated, fixed upon three fields opposite the ruins of the Monks' Abbey. The old abbey and grounds ought to be included, and, at no very large cost, the eastern end of the ruin might be fitted up for a chapel. It is stated that bricks are scarcely procurable in Lincoln, the great demand of late having cleared out all the brickyards. In consequence, parties are compelled to import bricks from a distance.

## New Books.

*An Introduction to the present Practice of Surveying and Levelling.* By A CIVIL ENGINEER. Williams and Co., Strand.

THE subject is here treated in a plain, intelligible manner, and many useful practical hints and directions are included. The work supplies no actual want, being, in fact, one of the many books of the same sort which the railways called into being; but it is adapted to meaner comprehensions than some of them, and will be found useful.

---

*The Electric Telegraph.* By PETER PROGRESS. Clarke and Co., Gracechurch-street. 1847.

THIS is an interesting sketch of the progress of telegraphic communication, and a very lucid explanation of the means at present used, evidently foreseen by Shakspeare when he made Robin Goodfellow say,—

> "I'll put a girdle round about the earth
> In forty minutes."

The electric telegraph affords one more proof of the fact, that those who *invent* are seldom so well rewarded (if at all) as those who *apply* the invention. A Mr. Rowland constructed an electric telegraph in 1816, and in pointing out what electricity might be made to do, gave a perfect description of the present electric telegraph. He clearly established the fact, that an electric current might be made to pass through a continuous wire of great length. In combating the objection that the subterranean part of the apparatus might be injured by mischievously-disposed persons, he jokingly remarks,—"If you cannot prevent this, hang the rogues if you catch them, curse them if you cannot, and mend it immediately in both cases."

Government discouraged the inventor; he had not quite hit upon the right means either, and was told from the Admiralty, that "telegraphs of any kind were wholly unnecessary, and that no other than the one then in use would be adopted." With more equanimity than is usually displayed in such cases, our author observes,—"I felt very little disappointment, and not a shadow of resentment on the occasion, because every one knows that telegraphs have long been great bores at the Admiralty!"

## Correspondence.

PUBLIC PARKS—COPENHAGEN FIELDS.

SIR,—The remarks of your correspondent respecting the erection of a parcel of slight-built houses over the once-famed Copenhagen Fields coincide so exactly with my feelings on the subject, that it gives me great pleasure to find I am not singular in my regret to see the play-ground of the northern part of the metropolis thus covered. I will not, therefore, trouble you with many remarks upon the subject, but trust you will give the full force of your ably-written periodical towards the redemption of this once delightful spot. No place can be better adapted by nature for a park than this. The varied surface of the ground, and the fine old trees that have still survived this *brick and mortar improvement*, will render it a comparatively easy task to render it so.

The increasing population of this vast metropolis renders it a matter of necessity that we should have some places of healthful resort, where we can obtain a little fresh air after the toil of the day in the smoky city. If this be not taken in hand soon, where are we to go?

I certainly cannot understand why the recommendation of the committee to which your correspondent alludes did not receive the attention it deserved, and can only suppose that the owners of the lands consulted their own interests only. Now, I hope, that it has been again mooted, some enterprizing individuals will take up the subject and convene public meetings to petition Parliament, and that, too, without loss of time.

I, for my own part, will give all the aid in my power, and will thank you for any hints that can facilitate this desirable object.

Your insertion of this, perhaps, will call forth the remarks of some whose abilities will enable them to do greater justice to the subject.

Clapton, Nov. 8, 1847. J. H. L.

## Miscellanea.

PREMIUMS FOR ARCHITECTURAL DESIGNS AND DECORATIVE ARTS.—The Society of Arts has offered a variety of premiums to promote original designs for decoration. "By first eliciting the design from the artist, and then honouring the manufacturer for realizing the design, the society hopes to extend practically the sphere of its utility, and especially to make the institution the means of easy communication between the artist, manufacturer, and merchant. For this purpose it is intended to register the address and change of address of each meritorious competitor, so that, on applying at the society's house, any manufacturer may have the means of communicating with such artist, and may be enabled to obtain the best information respecting all objects of ornamental design." The following are amongst the subjects:—1. For the best chalk or monochrome drawing, being an original composition, of children, half life-size, for a circular compartment, the silver medal and five pounds. 2. For the best chalk or monochrome drawing, being an original composition, of figures half-life size, to fill a spandrel of an equilateral arch of two centres, the silver medal and five pounds. 3. For the best cartoon, being an original composition, of a group of the rose, shamrock, and thistle, arranged ornamentally, a silver medal and three pounds. 4. For the best cartoon of an arrangement of the white lily, for a decorative purpose, the silver medal and two pounds. 5. For the best design for a chimney-piece, with bas-reliefs, scale, three inches to the foot, with working drawings, full size, the silver medal and ten pounds. For a model of a chimney-piece, with bas-reliefs, scale, three inches to the foot, and details full size, the silver medal and twenty pounds. 6. For the best original design for a stained-glass window, to suit a room or passage, in the Italian style of architecture, the silver medal and ten pounds. 7. For the best original design and working drawings for a pair of carriage gates, in iron, scale, two inches to the foot, and details full size, the silver medal and ten pounds. 8. For the best design and working drawings for a pair of folding-doors, with bas-reliefs on the panels, the silver medal and ten pounds. 9. Models of a door-knocker and scraper, the silver medal and five pounds. 10. For a design for an ornamental cast-iron pillar to support the roof of a railway platform, scale, three inches to the foot, the details full size, the silver medal and five pounds. 11. For a combined design for a finger-plate and lock furniture to match, the silver medal and five pounds. In the class of *architecture*, besides the premium for the best design for a labourer's cottage, already mentioned, the society offers for the best original design for an intermediate railway station, the gold medallion. "There must be a campanile, or clock-tower, and a platform, 300 feet long, roofed over; also a porch, a booking-office, two waiting-rooms, a watercloset inside, and another outside: a kitchen, cellar, and three rooms for the station clerk. Scale, one-eighth of an inch to the foot, with such details to a larger scale as the author may consider necessary for the full development of his design."

NEW ROMAN CATHOLIC CHURCH, CHELMSFORD.—A new Roman Catholic Church at Chelmsford, Essex, was opened on the 21st ult. The style is early English of late character, or rather transition from the early English to the decorated, and the church consists of nave, two aisles, chancel, and two chapels, one at each end of the aisles. The nave is 57 feet long, 22 feet wide; aisles, 58 feet long, 11 feet wide; total width 44 feet inside; chancel, 22 feet long inside; height of nave, 38 feet inside; total length inside, 80 feet; and the cost about 2,500*l*. The windows are filled with stained glass, by Wailes, of Newcastle. The timbers of the roof of the nave and aisles are seen, the nave having what is called a "cradle roof." The exterior is faced with chalk flints, with dressings of stone from Box Hill, near Bath. A belfry for a sanctus and another bell, surmounts the gable over the chancel arch. A porch on the south side forms a prominent feature of the edifice. The architect is Mr. J. J. Scoles, one of the honorary secretaries of the Institute of Architects; and Messrs. Curtis, of Stratford, are the contractors.

THE TUBULAR BRIDGE FOR THE MENAI STRAITS.—The progress of the Britannia-bridge necessarily excites much attention. A correspondent of the *Leeds Intelligencer*, anticipating time, has given a notice of the bridge as if it were finished. Speaking of the iron tubes, he says:—"They are made of plates of iron, of various thicknesses, riveted together: the iron increases in thickness as we proceed towards the centre. The roofs of the tubes are formed of cells, and also the floors. Those cells are formed of iron plates set on edge, the cells of the roof being within a fraction of 1 foot 9 inches square; and those of the floor being 1 foot 9 inches wide, and 2 feet 3 inches deep. The rails on which the trains run are laid on these cells of the floor. The flat bottom, the two upright sides, and the flat roof of each tube are formed of plates, the thinnest of which is a quarter of an inch, and the thickest twelve-sixteenths of an inch; but the number of them laid together, and the internal joinings, cannot be yet explained. The weight of each of the long tubes will be about 1,300 tons; the weight of the four short ones about 600 tons. In the whole there will be at least 7,600 tons of iron used. No contracting estimate of the expense of the ironwork has been made, as the work may cost more or less, according to circumstances. The masonry was contracted for by B. J. Nowell and Co., at 130,000*l.*, but, from alterations in the plans, it will cost (supposing no further alterations be made) 200,000*l.* They expect to finish the masonry in August, 1848. It will contain one million and a half of cubic feet of stone. In May last, fifty vessels of sixty or seventy tons each were employed in conveying the stones to the works; the red sandstone, of which the inside courses are built, from Runcorn; the blue limestone, of which the outside courses are built, from the sea-shores of Anglesey. The quarries on the Anglesey shores opened for this work extended over twenty miles. In the whole there were 1,300 men employed, 600 of them at the bridge; the fortnightly wages of the latter amounted to 1,500*l.* Upwards of 200,000 cubic feet of timber has been used for stages and scaffolding. A steam-engine was at work on each shore; and a third was being erected on the Britannia rock, in the centre of the strait, to hoist the stones, grind mortar, saw timber, and perform other heavy work. On each shore there was a limekiln,—the chips of the limestone falling from the irons of the hewers being burned into lime, and the chips of the red sandstone being ground to powder to make mortar with the lime."

A NEW ROTARY FOUR-HORSE POWER ENGINE IN A HAT-BOX!—Mr. Elijah Galloway has patented what has hitherto been esteemed much more as the philosopher's stone of steam-power than a practicable invention, and is accordingly supposed to have solved the knotty problem of the greatest possible economy of fuel, weight, and friction of which steam power is susceptible. A four-horse rotary engine under this patent is now at work at the factory of Mr. Tyrrell, engineer, at Deptford, in driving a furnace-blower, and it is said to be so wondrously portable as not to weigh more than two or three cwt., and not to occupy more than half the space of an ordinary hat-box! A steam pipe from the boiler brings the steam into this little receptacle; an eccentric crank is turned by the rotary motion within it; and here is all the machinery said to be necessary to propel the largest engines, whether mining, marine, or locomotive! The Admiralty are said to have ordered an estimate for supplying the *Minx* with a fifty-horse power one. They could not do better, we think, than name such a little whirling machine the *Minx* itself, and keep it in a band-box.

TRIBUTE TO BRITISH SCIENCE FROM THE SULTAN MAHMOUD.—We understand that our countryman, Mr. Fairbairn, of Manchester, has been presented with a decoration of one of the Turkish orders, in consideration of the valuable services performed by that gentleman in his capacity as engineer to several extensive works, undertaken at the desire of the sultan.

WIRE ROPE AND CORD.—Messrs. Newall's patent wire rope and cord, specimens of which we have lately examined, seems well adapted for hanging sashes or pictures, and for other purposes where hemp cord has hitherto been used, and greater durability is desirable.

ELECTRO-TELEGRAPHIC PROGRESS.- The telegraph on the Baden Railway was opened on 15th ult. The Government had appointed a commission to examine all the different telegraphs in use, and adopted Highton's Patent Gold-Leaf Telegraph. Professor Eisenlohr, of Carlsruhe, who superintends it, reports that the plan is so perfect that it must come into general use throughout the world. He states that *with one wire only* information has been transmitted at the rate of thirty letters a minute [nothing peculiarly new in that, we should think], whilst the most complicated apparatus, and one that costs ten times as much, and requires a much more powerful current of electricity, gives not more than sixty or seventy letters a minute, and is not certain in its action. The words in the report of the learned professor are, that "it excites the admiration of the world."

SANATORY MATTERS IN CHELSEA.—A correspondent writes:—"As the scourge of man, the cholera, is (they say) coming, it should not only be met as if we feared 'God and not the cholera,' but should be the means of inducing all parties to 'clean out' during the approaching cold season. Thinking possibly you might deem it a portion of your beneficial duty to urge this good work, I send you information as to what the authorities of 'old Chelsea' are doing, and, if you approve the same, it may be made a stimulus for the exertions of others. The Sanatory Commission have sent to the Board of Guardians a request for a report of the 'courts and alleys,' &c. The Board of Guardians have handed such request to the Chelsea Improvement Commissioners, seeking their co-operation. The latter body are, through their surveyor, visiting, and inspecting, and reporting on all cases of an unwholesome nature; such report is then to be submitted through the Board of Guardians for the report of their medical officers, and in all instances where the medical gentlemen report unfavourably, the Chelsea commissioners will take each individual case into their consideration, acting as the necessity of the matter may require, reporting from time to time to the Sanatory Commission; and as it is well known that in a multitude of cases persuasion is better than compulsion, wherever the same can be done, an intimation of the state of the property will be sent to the owners of it."

CAMBRIDGE ANTIQUARIAN SOCIETY.—From the report of the council we learn, that a second volume of the society's publications has been commenced by the recent issue to the members of No. XIII., being the Rev. J. Goodwin's *Evangelia Augustini Gregoriani*, which will soon be followed by No. XIV., containing three papers, viz., Mr. Franks on "Palimpsest Sepulchral Brasses;" Mr. C. W. Goodwin on "Two British Shields;" and Mr. J. O. Halliwell's catalogue of books, bequeathed by T. Markaunt to Corpus Christi College, Cambridge in the year 1439, with a list of their prices. The council, in concluding their report, express thanks to the Cambridge Philosophical Society for having granted the gratuitous use of its rooms for the meetings of this society. Such liberality, relieving the Antiquarian Society from the necessity of hiring a room in which to hold its meetings, has enabled the officers to reduce the expenses attendant upon conducting the society during the past year to the very small sum of 6*l.* 5*s.*, and placed it in the power of the council to expend about 180*l.* upon the museum and publications.

CLAY FOR ARCHITECTURAL PURPOSES.—Sir: I herewith forward you a small portion of newly-discovered clay, as taken from the strata in Leicestershire, which, beyond doubt, may be brought into many useful purposes,—either for all kinds of architectural ornaments, or the most minute castings. When dry it becomes *much harder* and more durable than any cement we have now in use. The following is its analysis:—

| | | |
|---|---|---|
| Silica, or sand ..... | 46 | 0 |
| Alumina, or clay ..... | 24 | 4 |
| Carbonate of lime ..... | 12 | 0 |
| " " magnesia ..... | 4 | 0 |
| Oxide, or rust of iron ..... | 7 | 0 |
| Traces of common salt, gypsum, and little vegetable matter and moisture..... | 6 | 8 |
| | 100 | 0 |

CHARLES HANBURY, C.E.
77, Connaught-terrace, Hyde Park.

PROJECTED WORKS, &c.—Tenders have been called for by advertisement for Sewers in Long Acre and St. Marylebone; for sundry Government works at Holyhead, comprising the formation of railways and the erection of sea walls; and for the erection of a lock-up house at Coleshill.

CONTEMPLATED REMOVAL OF THE QUADRANT COLONNADE.—The Commissioners of Woods have given notice of an application to Parliament for power to remove the colonnade of the Regent-street Quadrant, and to sell the materials to defray the expense of new fronting the houses; and, should that prove insufficient, to make a rate on the inhabitants, who have for some time past complained of this colonnade as a hindrance to their business.

NEW STREET AND RECORD OFFICE.—The Commissioners have also given notice of application to Parliament for powers to make so much of the proposed new street of which we lately spoke, and to take such property as would be required for the site of the intended Record Office.

THE CORNARO PALACE AND ARMY AND NAVY CLUB-HOUSE.—In a notice of the proposed new building for the Army and Navy Club last week, the *Athenæum* remarks, that "a contemporary (meaning THE BUILDER) is mistaken when he describes the Palazzo Cornaro as exhibiting three *orders*. It has only two,—an Ionic and a Corinthian upon a rusticated substructure, breaking into piers beneath each pair of columns." In truth, however, we have not the expression which is pointed out as a mistake. Our words are: "the Cornaro Palace has three *stories* above the basement, Doric, Ionic, and Corinthian" (we were pointing out the differences from that structure in Messrs. Parnell and Smith's design, which has but two stories above the basement), and this our usually correct contemporary will find to be the case.

FILE-CUTTING MACHINE.—A patent has at length been taken out by a Mr. E. Vickers, of Sheffield, for cutting files by machinery. By this invention, it is said, the difficulties are avoided by the machine being so arranged as to imitate the manual process now in use.

SOCIETY FOR THE IMPROVEMENT OF MEN EMPLOYED IN MANUFACTORIES.—This society, intended to advance the general improvement of working men; to purify and increase their sources of enjoyment; and to encourage and induce them to engage in the delightful work of self-improvement, as recently noticed by us, is making satisfactory progress. There are now seven auxiliaries, namely, in Lambeth, Vauxhall, Westminster, Southwark, Bermondsey, Shadwell, and Milwall; and lectures are being delivered *gratuitously* to the working men of London, and will continue to be so during the next winter months. At some of the lectures 1,000 operatives have been present. Mr. A. Austen, 34, Walnuttree-walk, Lambeth, is the secretary, and would give any required information. The cause is a noble one.

TIDAL HARBOUR BOARD.—The Tidal Harbour Commission having been abolished, Capt. Bethune, R.N., Capt. Washington, R.N., and Capt. Vetch, R.E., have been formed into a "Tidal Harbour and Conservancy Board," under the jurisdiction of the Admiralty, with a salary of 800*l.* per annum each.

THE USEFUL WITH THE ORNAMENTAL.—When Sir John Carr was in Glasgow, about the year 1807, he was asked by the magistrates to give his advice concerning the inscription to be placed on the Nelson monument, then just completed. The travelling knight recommended this brief record—'Glasgow to Nelson.' 'Juist so,' said one of the bailies; 'and as the toun o' Nelson 's close at haund, might we no juist kill twa dougs wi ae stane, an' juist say,—"Glasgow to Nelson—sax mile;" an'so it might serve for a moniment an' a milestane too?'

THE SANATORY MOVEMENT.—The object of the sanatory movement may be summed up in a few words—a sewer in every street of every town and village; a drain for every house; a constant and unlimited supply of good water to every family; pure air at any cost; the application of the refuse of towns to the purposes of agriculture; and, lastly, to secure these blessings, the removal of every impediment, physical and moral, and the destruction or reconstruction of every form of local administration which does not work well towards these righteous ends.—*Fraser's Magazine for November.*

## TO CORRESPONDENTS.

"*J. R.*"—The height of buildings for the purpose of the Buildings Act is measured from the surface of lowest floor up to underside of the ceiling of topmost story, at the highest part. If no ceiling, to underside of tie-beam or collar-beam.

"*A Builder.*"—A stain for darkening wood to imitate oak may be purchased at the office of "The Builder." Or the varnish may be stained with asphalte.

"*A. M.*"—We know of no "committee of gentlemen before whom a person can pass an examination and thereby be qualified as a civil engineer, without having served his time with one of the profession."

*Received.*—"M. Saul," "W. N.," "C. E." (next week), "An Honest Englishman," "C. G.," "V. Y." (Bloomsbury), "W. B.," "J. W."

"*Books, Prices, and Addresses.*"—We have not time to point out books or find addresses.

## ADVERTISEMENTS.


**CHEAP ROMAN CEMENT** is sold in Casks that will not contain Five Bushels, even by some manufacturers of a very respectable name. Consumers should see that the standard size cask is 29 inches long by 17½ across the head, outside measure. Any workman with a rule in his pocket can ascertain this.

**ATKINSON'S CEMENT. — WILLIAM** WOOD, Jun., Manufacturer of Roman, Portland, and Bath Cement, Blue and White Lias Lime Works, CHURCH STREET, ROTHERHITHE, London, Sole Consignee of Atkinson's Cement.

**PORTLAND CEMENT.**—Testimonials received from all quarters prove this CEMENT to possess the rare property of withstanding the severest frost, and to be consequently superior to every other for hydraulic purposes—such as the Building and Lining of Reservoirs, Cisterns, Baths, Fishponds, &c. For External Plastering and Ornamental Castings, it requires neither Colour nor Paint; it never vegetates, and will carry from three to four times its own body of sand.

Manufacturers, J. B. WHITE and SONS, Millbank-street, Westminster.

**KEENE'S PATENT MARBLE CEMENT** forms an exceedingly hard and indestructible Stucco, which may either be prepared for paint, or finished in imitation of stone, by the addition of Portland or other stone dust.

It is a cheap and efficient substitute in place of wood for skirting, architrave, and other mouldings, in its application for which purposes it checks the progress of Fire and the attacks of Vermin.

Patentees and sole Manufacturers, J. B. WHITE and SONS, Millbank-street, Westminster, and Seel-street, Liverpool.

**GREAVES'S LIAS LIME and CEMENT.** RUTTY and VEREY, 2, South Wharf, Paddington.

LIAS LIME, as Mortar, is especially adapted for sewers, dock-walls, hydraulic, railway, and other works; its adhesive qualities being superior to Roman Cement.

As CONCRETE, it has more power than any other Cement or Lime, as it forms a solid mass—sets as firm as a rock under water—using one bushel of lime to eight of gravel.

LIAS CEMENT is easily worked of a beautiful stone colour (similar to Portland stone), does not vegetate or crack, hardens by exposure to the atmosphere, and is well adapted for modelling and casting.

MARTIN'S FIRE-PROOF AND ORNAMENTAL CEMENT.

**CAUTION.—Messrs. STEVENS and SON,** Patentees, beg to caution their friends and the trade generally against confounding this invaluable Cement with others, erroneously said to be of the same description. S. and S. pledge themselves that MARTIN'S CEMENT is totally dissimilar in composition and manufacture from every other, and being a neutral compound, is not only free from chemical agency upon any substance with which it may come in contact, but completely resists the action of the strongest acids. They feel it a duty to direct attention to the following properties, which it exclusively possesses:—

1. It rapidly acquires the hardness of stone.
2. Unlike other internal cements, its hardness is uniform throughout its entire thickness.
3. Its surface (which may be made equal to that of the finest marble) NEVER THROWS OUT ANY SALT, and will receive paint in four days, without peeling, when put upon dry work.

It is peculiarly adapted as an internal stucco for walls, skirtings, architraves, mouldings, and enrichments of all kinds, to all of which purposes it has been extensively applied by Mr. Thomas Cubitt, on the Grosvenor estate, &c.

For the above purposes, it possesses great advantages over woods, being more economical and durable, resisting fire, damp, and vermin.

For the floors of halls and fire-proof warehouses, its lightness, durability, and uniform surface give it an immense advantage over stone, being, at the same time, much more economical. The most satisfactory references can be given. To be had of the Patentees, Plaster of Paris and Cement Manufacturers, 186, DRURY LANE.

Agent for Liverpool and Manchester, Mr. R. PART, 28, Canning-place, Liverpool.

SNOXELL'S PATENT SAFETY REVOLVING WOOD SHUTTERS.
Manufactory, 96, Regent-street, and 131, Chancery-lane.

**THE Patentee having fixed a great number** of his shutters in London, and given universal satisfaction, can confidently recommend them both for security and durability, the edges being sheathed with Iron. Their construction is so simple that the largest establishment can be opened or closed with the greatest possible ease without the use of machinery. Their superiority over other revolving shutters consists in their great strength and stiffness, being without metal hinges, consequently cannot rust, buckle, be strained, or get out of order, and are safer. Persons dissatisfied with the patent rising gear now used for iron shutters can have it removed, and the shutters made to draw up in any part of the premises with the slightest exertion, without machinery, thereby avoiding the unpleasant use of oil.

INJUNCTION.

**BUNNETT and CORPE'S Patent REVOLVING IRON SHUTTERS.**—Since the verdict found in favour of the Patentees, in the Court of Exchequer, in the action tried by order of the Court of Chancery, that Court has granted a perpetual Injunction for restraining all infringements of this Patent, and therefore all parties are hereby cautioned against infringing the same.

THE PRICES ARE GREATLY REDUCED, and BUNNETT AND CORPE'S PATENT IRON SHUTTERS ARE THE CHEAPEST AS WELL AS THE BEST. They are made with convex laths, if required. The worm and wheel motion for raising and lowering revolving iron shutters (as secured by this Patent) is the only safe and durable mode of effecting that object. In large shutters it is indispensable.

Some thousands of Bunnett and Corpe's Shutters have now been put up, without a single complaint of their want of strength or security; and nine years' practical experience (during which they have adopted every real improvement) enable the Patentees to challenge comparison with any others. They will guarantee all Shutters put up by them to keep in order, and last twice as long as any with thin convex laths.

B. and C. also manufacture REVOLVING WOOD SHUTTERS (the Patent for which has expired), at the same prices as other makers, but greatly superior, being fitted with their patent raising gear, and proper metallic hinges, without which no shutter can be safe or durable.

BUNNETT and CORPE are likewise Patentees and Manufacturers of METALLIC SASH-BARS, MOULDINGS, &c., IN BRASS, COPPER, OR ZINC, FOR SHOP-FRONTS, WINDOWS, SKYLIGHTS, AND VARIOUS OTHER PURPOSES.

Shop-fronts fitted with Iron Shutters, Patent Brass or Zinc Sashes, Plain or Ornamental; handsomely Engraved, Moulded, Stall-board Plates, best Plate Glass, and Internal Brass Fittings of all kinds, superior in quality and workmanship, and lower in price than any other house. Contracts taken in Town or Country.

Metal Drawing and Stamping for the Trade.

Office at No. 26, Lombard-street, London; Works, at Deptford, Kent.

Steam-engines, Sawing, Planing, and Moulding, Cutting-machines on Improved Plans, especially adapted for Builders' purposes, may be seen in operation at the Works.

TO THE IRON TRADE, &c.

**MR. WILLIAM HENDRY,** late of the Firm of HENDRY and GLOVER, Iron Founders, Drury-lane, begs to inform the Trade that he has CEASED to have any CONNEXION with GLOVER since the 9th day of January last, and that he will not be responsible for any debts that may be contracted since that date.

**WILLIAMS'S PATENT SLATE** RIDGES and HIPS.—The above article is recommended as the best and the most suitable covering for Ridges and Hips of slated roofs ever invented, possessing a solid Roll of various sizes, more elegant and durable than lead, and 20 per cent. cheaper.—Sold by Messrs. J. and J. SHARP, Slate Merchants, Tooley-street, and Mr. RICHARD COOPER, Slate Merchant, Belvidere-road, Lambeth, London.

**WORCESTER ENCAUSTIC TILES.**—Specimens of these Tiles in great variety, both glazed and unglazed, may be seen, and every information obtained at the London Agents, Messrs. GREIVE and GRELLIER, Marble Wharf, Belvidere-road, near Waterloo-bridge, and Mr. SAMUEL CUNDY, Belgrave Wharf, Pimlico.

N.B. The price has been very much reduced since March last. Orders executed as above, or at the works of Messrs. F. ST. JOHN G. BARR and Co., Palace-row, Worcester.

TO ARCHITECTS, BUILDERS, AND OTHERS.

**ENCAUSTIC, VENETIAN, BATH, and** other PATENT TILES, and MOSAIC PAVEMENTS, may be obtained in great variety at MINTON and Co.'s Warehouse, 2, Albion-place, Surrey side of Blackfriars-bridge; and at their Manufactory, Stoke-upon-Trent, Staffordshire. — N.B. Slabs and Tiles for Fireplaces, plain and ornamental; Door Furniture, &c.

TO BRICK AND TILE MAKERS.

**THE AINSLIE BRICK AND TILE** MACHINE COMPANY (James Smith, Esq., of Deanston, chairman), invite attention to their IMPROVED BRICK and TILE MACHINES which are to be seen at work at Alperton, and at the Company's office, 193 A. Piccadilly, from 10 A.M. to 5 P.M. Mr. Robert Scrivener, who has been appointed manager in the room of Mr. John Ainslie, will show the Machines at the works at Alperton, which is within a mile of the Sudbury-station of the London and North Western Railway, and two miles of the Ealing-station of the Great Western Railway; also at the Polytechnic Institution, Regent-street, London.—All communications to be addressed to Mr. WILLIAM GORDON, Secretary, at the office of the Company, London, 193 A. Piccadilly, March 1, 1847.

These Machines may also be seen at Mr. SLIGHT'S, Leith-walk, Edinburgh; Mr. LAWRENCE HILL, 135, Buchanan-street, Glasgow; Mr. ROBERT CHARLES, Mill-hill, Leeds; Messrs. PENNY and FINCH, Penkridge, Staffordshire; and Messrs. DRUMMOND and SON, Dublin.

**PAVING, 2s. 9d. PER SQUARE YARD.** Basements, Foot-walks, Malt-houses, Corn Stores, Floors of Warehouses, and every description of Pavement laid down at the above low price, and the work guaranteed.—Apply to JOHN PILKINGTON, POLONCEAU'S BITUMEN PAVEMENT OFFICE, 15, WHARF-ROAD, CITY-ROAD.—N.B. Country Agents and Railway Engineers and Contractors supplied with the best bitumen for covering bridges and arches.

**SAMUEL CUNDY, Mason and Builder,** PIMLICO MARBLE and STONE WORKS, Belgrave Wharf, Pimlico, begs to remind Gentlemen, Architects, and Others, that the Business now carried on at the above Works is solely his;—

That ARCHITECTURAL, SCULPTURIC, GOTHIC, and MASONS' WORK in all its Branches, &c., are executed at the cheapest possible charges.

S. C. respectfully solicits a continuance of the kind favours of all those who have hitherto done business with him, and invites others, in Town and Country, to favour him with their patronage, as his system of doing business would be found highly advantageous.

CAEN SUFFERANCE WHARF, ROTHERHITHE.

**LUARD and BEEDHAM** beg to inform Architects, Surveyors, Builders, and others, that they have removed from Norway Wharf, Greenwich, the whole of their Caen Stone business, to the above extensive premises, where a large Stock will be kept up by continual fresh arrivals from their quarries at Allemagne. Orders received at the wharf, and further particulars may be obtained of Mr. GEORGE GATES, 18, Southwark-square, Borough, London.

Orders shipped direct from Caen to any port.

The Waterman Steamboats call at Lavender-pier, adjoining Caen Wharf.

**ANSTON QUARRIES.— Messrs. Wm.** WRIGHT and Co. beg to inform Architects, Engineers, Builders, Stone Merchants, and Others, that they have opened QUARRIES in the land adjoining those of Messrs. Grissell and Peto, and are ready to supply any quantity of stone on the shortest notice.

This VALUABLE STONE, so celebrated for its durability, colour, and texture, is well known, having been selected (in preference to all other in England, by the Commissioners of Woods and Forests) for building the New Houses of Parliament. Facilities are at hand for forwarding the Stone to any part of the kingdom.

Application to be made to Messrs. Wm. WRIGHT and Co., Anston, near Sheffield, Nottinghamshire.

**SLATE SLABS.—The Finest Slabs pro-** duced in WALES, of amazing strength, pure in texture, and free from spots, may be had of Mr. MAGNUS, at the PIMLICO SLATE WORKS, Upper Belgrave-place, planed both faces at the price that inferior Slabs in the rough (self-faced) are currently selling. These reduced prices are also subject to a very large trade discount. These Slabs have been extensively used at Buckingham Palace, Strathfieldsaye, the Royal Naval and Military Schools, Deptford, the Model Prison, Pentonville, the Goulstone-square Baths and Washhouses, on most of the Railways, and are specified for by the most eminent architects. Whole cargoes supplied direct from Mr. Magnus's Works in Wales, planed both faces, at very low rates. Slate Tanks, Fittings for Dairies, Larders and Wine Cellars, Landings, Cantilevers, Chimney Pieces, &c. &c.

ARCHITECTURAL ENRICHMENTS.

**BIELEFELD'S IMPROVED PAPIER** MACHE, which has been almost universally adopted for architectural decoration, has been patronized by her Majesty, by the Honourable Commissioners of Board of Works, by the highest of the nobility and gentry, and by the most eminent architects of the day. It has been used at the royal palaces, at the present House of Lords, at Dublin Castle, at Drayton Manor, the new Conservative Club House, Grocers' Hall, &c., also at the British Museum and Pantheon Bazaar, where it has been extensively used for some years, and an inspection will sufficiently establish its superiority over every other kind of composition, both for beauty and durability. Designs prepared for the decoration of ceilings, panelling of walls, &c. A volume of enrichments, containing more than 1,000 designs of the papier mâché ornaments, with a tariff, price £1.—Works, 15, Wellington Street North, Strand.

**PAPIER MACHE and CARTON PIERRE.** Just published, a LITHOGRAPHIC VIEW of IRONMONGERS' HALL, Fenchurch-street.

The spacious Banquetting Hall of the Worshipful Company of Ironmongers having been confided to Messrs. JACKSON and SONS for redecoration, they have carried out the whole of the rich dressings of Ceiling, Walls, Dado, Orchestra, and the various parts in the Elizabethan style, in their PAPIER MACHE and CARTON PIERRE. The ceiling is richly designed with beams and minor associated panels with pendants, strap work, &c., the whole finished in colour and gold; the walls have a rich high dado with the arms, the grade, and period of office of the Masters and other eminent members of the Company, chronologically arranged from the time of Edward IV. The orchestra, principal entrance, Master's end, are also appropriately enriched.

A large Lithographic View of this Interior is now published and ready for sale, at their Papier Mâché and Carton Pierre Factory, 49 and 50, Rathbone-place, price 7s. 6d.

PREPARED FLOORING BOARDS.

**ALWAYS on SALE, a Large Assort-** ment of DRY PREPARED FLOORING BOARDS, and MATCHED BOARDING of all sorts, planed to a parallel width and thickness, from ¼ inch to 1½ inch thick. TIMBER, DEALS, OAK PLANKS, SCANTLINGS, SASH SILLS, &c.

AT REDUCED PRICES.

Apply at W. CLEAVE'S Timber Yard, Wilton-road, Pimlico (late C. Moore and Son).

**ALFRED ROSLING** begs to inform the Trade and Consumers generally, that he keeps constantly in stock a large and very general assortment of Prepared Floor Boards and Matched Boarding, planed to a parallel breadth and thickness, and fit for immediate use; also a variety of machine-prepared Mouldings, which are finished with great accuracy and attention to quality of workmanship.—Southwark Bridge Wharf, Bankside, and Old Barge Wharf, Upper Ground-street, Blackfriars.

**T. ADAMS (from Byron and Co.), late S.** Dare, MAHOGANY and TIMBER MERCHANT, Bermondsey New Road, near the Bricklayers' Arms. SEASONED FLOORING, MATCH-BOARDING FIT FOR IMMEDIATE USE, and MOULDINGS prepared by machinery, Cut Deals and Scantling of every dimension, Mahogany, Cedar, Rosewood, Wainscot, Elm, Beech, Oak, &c., in planks, boards, veneers, and logs; Pantile, Oak, and Fir Laths; Wheelwrights' Goods. All sawn and prepared goods delivered free of expense (except timber). Sawing charged at mill prices. Very extensive Drying Sheds.

MUIR'S PATENT PLANING MACHINE.

SAW MILLS, GILLINGHAM-STREET, PIMLICO.

**TIMBER of any Size, PLANK, DEALS,** and BATTENS, &c. Sawn on the most approved principle. Boards, &c., Prepared, Matched, and Grooved, by Muir's Patent Machinery. The Mills have all the advantages of navigation and water-carriage, being connected with the Thames by the Grosvenor Canal. Goods fetched from the docks and carted home free of charge.

Address to HENRY SOUTHAM,
Saw Mills,
Gillingham-street, Pimlico.

N.B. Estimates given for Sawing and Planing.

WOOD THOROUGHLY SEASONED IN DAYS INSTEAD OF YEARS BY DAVISON AND SYMINGTON'S PATENTED PROCESS.

**THE Patent Desiccating Company beg to** inform Architects, Builders, Cabinet Makers, Coach Builders, Ship Builders, and others, that their establishment (for seasoning, sawing, and planing wood), known as the Grand Surrey Mills, immediately adjoining the Commercial and East Country Docks, Rotherhithe, has commenced working. The sawing and planing will be done at the usual charges, and in the best possible manner. The new process of seasoning ensures the entire removal of moisture, hardens the gums, prevents further shrinkage (no matter how warm the temperature or hot the climate), strengthens the fibre, thus giving greater rigidity and compactness to the material, all of essential importance for floorboards, doors, shutters, and similar work. For licenses to work the patent, scale of prices, or any further information, address, post-paid, or apply to W. H. TANQUERAY, Secretary, at the temporary offices of the Company, 28, New Broad-street, City.

N.B.—It has been satisfactorily ascertained that what are termed two-years' seasoned flooring boards, contain from 8 to 10 per cent. of moisture, causing a shrinkage of one-eighth of an inch in the width of the board, which is obviated by the new process.

LADDERS, BARROWS, &c.

**G. ELL respectfully invites the attention** of Railway Contractors, Builders, Decorators, and the Trade in general, to the extensive assortment of Ladders, Barrows, Machines, Tressels, Steps, &c., he has constantly on hand, at a very low scale of Prices; and is now selling Excavators' Barrows, of ash frames and elm tops, as low as 12s., by a quantity being taken; and the best make of stout ash frames, stays to legs, inch elm top, largest size, as low as 13s. for cash; Ladders commencing at 4d. per round. Every other description of Barrow and Ladder equally low.

G. ELL'S MANUFACTORIES, 3 and 6, Tottenham-court, New-road, 8t. Pancras, opposite Hampstead-road.

**THE most perfect DRY GAS-METER** in the World—N. DEFRIES, Dry Gas Meter-maker, in directing the attention of the Public and the Gas Companies to his having just erected an extensive Factory, 10, Hampstead-road, in conjunction with his old-established premises, 67, St. Martin's-lane, begs to say that he can now MEET any DEMAND for METERS, from 2 lights to 1,000. The sale of 18,000 meters and the rapidly increasing demand, stamp as complete a meter that eight years' experience has proved to be unaffected by weather, by time, or by injurious gas. He invites attention to the fact of many of his large meters being in successful action at the Houses of Parliament, the Royal Dock yards, the Thames Tunnel, Theatres, Churches, Club-houses, &c., and has powerful and flattering testimonials at either factory, which may be obtained on application.

**LESLIE'S PATENTS. — GAS CON-** SUMERS guaranteed the following important sanitary and economic advantages:—

1. His BURNERS are purposely MADE TO DETECT FOUL GAS, so injurious to health, so destructive of property, and so expensive to the consumer; the expense and danger increasing with the impurity.

2. His new Patent GLASS COMBUSTION CHAMBERS are made in sizes for the MORE PERFECT PRODUCTION OF LIGHT, from either three, four, or five cubic feet of gas per hour, according to the requirement of light by the consumer, all of which are applicable to one and the same burner of twenty-eight tubes.

3. These philosophical arrangements produce an IMMENSE INCREASE OF LIGHT, from any equal quantity of Gas, over every burner yet offered to the public; and over the Fish-tails and Bat-wings the increase of Light is above 100 per cent.

4. His new Patent AUTOMATON GAS ECONOMISER effectually PREVENTS the WASTE, NUISANCE, and EXPENSE arising from sudden variations in supply from the gas mains, and renders the Burners Light-producers, and not Smoke-producers: these will vary in price according to the duty they have to perform, from 10s. upwards.

PRICES:—Upright Burners, with Coyngham Spring Glass Holders, with either sized glass, Combustion Chamber included, 7s. each; Side Burners, ditto, 9s. each; extra Glass Combustion Chambers, 2d. each. SAMPLE PACKAGES, with one burner and a set of the glass combustion chambers, will be forwarded on receipt of a post-office order, payable to JOHN LESLIE, at the Charing Cross office, for 3s. if a side burner, or 10s. if a upright be desired.

LESLIE'S PATENT FOR ECONOMY OF FUEL AND VENTILATION.

Coal Consumers, with all the advantages of an open, cheerful fire, are guaranteed a saving of 30 per cent., with a beautiful system of ventilation always in operation. Licenses will be granted by the Patentee, One Guinea each Stove, with full instructions to Builders and others to erect. The construction is entirely of brick and iron, and so economical of space and materials, that the whole expense will not exceed the present unphilosophical chimneys and fire-places.

Offices and Manufactory, 39, Conduit-street, London.

**WOOD and STONE CARVINGS.—** Manufactory, 6, Regent-terrace, Cambridge.—Wood or Stone Carvings, and Church Furniture in all their branches, including Pulpits, Screens, Lecterns, Fonts and Font Covers, Reading and Litany Desks, Communion Tables and Railings, Stalls, Alms Chests, Standards, Poppy Heads, Chairs, String Courses, Bosses, and all kinds of figures in Wood and Stone, and every description of woodwork required in ecclesiastical edifices, executed by J. RATTEE, whose chief study is to execute all orders intrusted to him in a superior manner, with strict attention to economy. He is also now working with considerable success machinery, by which he executes all kinds of Antique and Spiral Twisting, at prices hitherto unparalleled.

# PEAKE'S TERRO-METALLIC, DRAIN, AND CONDUIT PIPES;

**ROOFING, RIDGING, PAVING, AND OTHER TILES;**

## BUILDING, PAVING, AND MANY-FORMED BRICKS, &c.

*Of at least One Hundred Sorts and Sizes.*

### THOMAS PEAKE,

**4 WHARF, MACCLESFIELD-STREET SOUTH, CITY-ROAD BASIN, LONDON,**

**A CENTRAL SITUATION,**

**AND THE TILERIES, TUNSTALL, STAFFORDSHIRE POTTERIES,**

Begs to remark that his Establishment was founded upwards of a century since, and for forty years has been carried on by his late Father and Himself. That during the last thirty years he has introduced his Manufactures into the metropolis of the Cotton Department of British enterprize Manchester, and other parts of the Country, with complete success, where they continue to be duly appreciated. That the cost of transit has been of late so reduced, as to enable him to keep a respectable assortment in London, where he used to supply Messrs. Wyatt, Parker, and Co., as agents, but now superintends the Depôt personally, and from what he has observed in Town as well as in other places, he cannot doubt but that his Terro-Metallic goods will be as generally adopted as they shall become known. That he is sincerely grateful to his numerous customers for their favours during so long a period, and respectfully assures them, as well as the Public generally, that they may rely upon the advantages derived from his extensive experience for a third of a century being continually exerted to merit their future confidence and support. No MATERIAL, he submits, can be more desirable than his Terro-Metallic to mould into an almost infinite variety of articles, required either at home or abroad, by the Nobility, Clergy, Gentry, Civil Engineers, Architects, and Builders;—also by the Owners and Occupiers generally of Land, Mines, Buildings, Gardens, and other Property. The late Mr. Loudon, the late Mr. Telford, C.E., and the Incorporated Church Building Society (amongst other persons and institutions), have borne very important testimony to the excellence of this material. Its colour, cleanliness, strength, efficiency, durability, and easy adaptation, are great desiderata, and the surveyor to the honourable Court of Sewers for Westminster, in 1846, wrote,—"I consider they" (viz., the Terro-metallic Pipes) "are admirably adapted, from their material and Strength, as well as from their Straightness and Smoothness, for house and other drains." Surely STRENGTH, STRAIGHTNESS, and SMOOTHNESS, are not ordinary characteristics! The Terro-Metallic has NECESSARILY a Firm Body, intense heat being indispensable to fuse its surfaces, forming thereby a natural and estimable glaze; this glaze, however, being natural, will expand or contract with the body, and consequently the articles will remain uninjured; but this is not always the case when bodies are covered with artificial glazes. The variety of ordinary and unsolid earths, of which bodies are formed, to receive upon their surfaces glassiness by means of foreign agents,—such as salt smear or wash,—will not stand the great degree of heat needful to bring the Terro-Metallic to its admirable compactness, solidity, and strength; and many clays would be thereby reduced from a large article or vessel into a bit of shapeless scoria. Experiments have demonstrated this to be a fact, and they could be easily repeated. Indeed, persons in the habit of using brown glazed bottles, milk-pans, steens, pots or mugs, need not be informed of the DIFFERENCE of bodily texture prevalent in such articles, and inseparable from UNCERTAINTY as to their durability; an uncertainty which increases by competition, but is by no means so important in household vessels, as in articles designed for permanent work beneath our streets and buildings. It is submitted, therefore, that Terro-Metallic Pipes are, for obvious reasons, a desideratum for purposes such as drains or conduits, not only on account of acids being innocuous, even to the body, or that the pipes may be laid near the surface of any street or road without risk of injury by heavily laden carriages passing over them,—but also because they may be laid in newly-formed ground without danger of fracture or breaking line by subsidence. The sockets of these pipes are roomy and deep, with well-formed shoulders, which are of a piece with them, not stuck to them after they are made. It is also further submitted that the Terro-Metallic cannot fail to take preference against every other material of inferior firmness, solidity, and strength of bodily texture, in proportion as the Public shall severally have an opportunity to judge for itself by examining and comparing it in every point of view with all competing materials, and deciding according to their intrinsic merits respectively.

The colours of the PLAIN TILES for roofs are either Blue, Brindled, or Red. They are neither nailed nor pegged, but are hung upon sawn laths, 1 inch by 3-8ths of an inch, by knobs, which take firmer hold, as the wind lifts the lower end of the Tiles. Hence, and considering the fold of 7 inches, the security of such covering in exposed situations and stormy weather. RIDGES, HIPS, AND VALLIES are neatly tiled, superseding the use of Lead, which is liable to be either stolen or perforated by worms. Plain Tiles, of some antiquity and comparatively rude manufacture, in the Midland Counties, are still efficient upon roofs where they have lain undisturbed for 150 years; and a mansion called Turnhurst, the last residence of the celebrated civil engineer, Brindley, is a remarkable instance. Sudbury Hall, lately occupied by her Majesty the Queen Dowager, the seats of Earl Talbot and Lord Hatherton, also churches and other valuable buildings, are covered with Plain Tiles 11 inches by 7 inches by 7-16ths of an inch, of which 1,000 lay 200 square feet, at 8-inch gauge, and weigh from 20 to 25 cwt. Bricklayers usually do both tiling and pointing. The Incorporated Church Building Society prefer these Tiles to all other materials, excepting Lead and Copper. The Dukes of Devonshire and Sutherland are in the habit of using Terro-Metallic articles, and possess in the neighbourhoods of Chatsworth and Trentham, of Mr. Peake's manufacture, probably the best as well as most varied specimens of tiled roofs in the world. Travellers, who immediately after hurricanes have traversed districts where Thatch and all kinds of Slates have been used, as well as these Tiles, have no doubt observed the damage sustained by roofs of other materials, whilst Terro-Metallic Tiled Roofs were uninjured. Consequently, the latter are preferred in the bleak moorlands of Staffordshire, Derbyshire, &c. In regard to the strength of timber required for Plain Tiles, it may be acceptable to describe one of two similar roofs, which stand perfectly, although affected by very different degrees of heat and cold from the manufacturing operations carrying on under them. The building is 210 feet long and 18 feet wide, without partition. No stronger timber is used than red deals, 11 inches by 3 inches. The principals are 10½ feet apart; there are two side trees on each side, 5½ inches by 3 inches; the spars are 3 inches by 2½ inches, and 18 inches apart. The laths are sawn 1 in. by 3-8ths of an inch. The pitch is between a third and a square. These Tiles keep the interior of buildings comparatively warm in winter and cool in summer, and thereby preserve the timber of the roof. Their appearance in perspective upon buildings erected in the Early English style is approved; the effect is varied also by the drips, or lower ends of the tiles, being moulded to numerous devices, "shewing off some of the most pleasing alternations of straight and waved lines." The PAN TILES are both of the usual form, and of a new pattern, which (at light cost) give a marked character to the roofs of such edifices as they suit, the curves, both concave and convex, being much larger and bolder than has been the case usually. GRECIAN AND ITALIAN TILES are furnished, with weather stop or rib and groove in the lap, forming a beautiful and almost everlasting covering. Of the different kinds it has been said, "In short, we consider them as the best of all coverings for roofs, whether of small or large buildings." RIDGE AND HIP TILES are plain, capped, rolled tops, also grooved to receive various patterns of vertical ornaments; the saddles are moulded to suit the angle formed by the roof; they are made in one piece, and not fastened at the angle with bits of iron, like slate ridges, to come apart as soon as the clips shall rust away: the pitch should be stated in the order. The rolls are hollow, admitting a circular rod of any length to be passed through them. VALLEY TILES are equally efficient and more economical and durable than Lead, Zinc, &c. PAVING TILES consist of Squares, Blue and Red, of several sizes, of octagon and small squares of different colours; of hexagons, of diamonds, and neatly-worked thin floor-bricks, for intersertion with each other, to form a variety of pleasing pavements. To lay these Tiles, make the ground solid, and spread a little sand or fine furnace ashes over it; place the Tiles upon mortar, or other material, thinly spread, but keep the joints free, and fill them afterwards with sharp sand, which should be spread over the Tiles, and swept to and fro for a few days with a besom. Lay boards upon the Tiles to walk upon until the mortar, or other material in which they shall be laid, is set firmly. Square Tiles, 9 inches by 9 inches, and 1¼ to 1½ inches thick, are extensively used in the floors of Fireproof Warehouses in the ports of Liverpool, Hull, and Preston; also for all the floors of Fireproof Cotton Mills and other large buildings. Comparatively speaking, these tiled floors yield neither sand nor dust; the bearings and axles of machinery, therefore, as well as the cotton, silk, woollen, or other fabric being wrought by it, suffer less injury by these floors than any other. Smaller squares, and other forms of Tiles, are used to pave Aisles in Churches, Entrance-halls, Household Rooms in Farmeries, and other respectable Dwellings, Cottages, Kitchens, Cellars, Schools, &c. They are easily cleaned, even from grease.

BRICKS, to any reasonable dimensions, are supplied; those 9½ inch by 4½ inch by 2 7-8ths, are in great request for Tunnels, Bridges, Canal-locks, Breast-walls, and various works upon Railways, Canals, &c. In distant localities, where the carriage is expensive, these Bricks are restricted to a facing of brick-breadth. Also, FIRE BRICKS, FRONT BRICKS, CLINKER BRICKS, WAREHOUSE, and BARN-FLOOR BRICKS, and PAVING BRICKS for Courts, Areas, Cottages, Footpaths, and Channels; NOSED BRICKS, i.e. one corner rounded; SEMI-CIRCULAR BRICKS, to erect Columns or Cope-walls; Bricks champhered to the angle of an OCTAGON; Bricks champhered to angles of Gables, and useful to draw a covering over horizontal Flues; Bricks for PLINTHS to Patterns; KEY-STONE or WEDGE-LIKE (longitudinally or transversely) BRICKS for Arches, Culverts, or Curves; other forms would be made to Patterns or Sketches.

SOCKET PIPES for DRAINS, CONDUITS, FLUES, &c. may be had of different dimeters, from 2 inches to 18 inches, increasing in thickness in proportion as the diameter is extended, and in lengths not exceeding 27 inches net; these Sockets are deep, neatly formed in the substance of the Pipe, and not stuck to it afterwards. The joints are made tight with a little Roman cement or good mortar. If desired, any form or size of Pipe would be perforated with holes, widening from the exterior to the interior surfaces. Being of true circular form and neat workmanship, smooth inside, which is well covered by a natural, efficient, and durable glaze, they resist the commonly injurious effects of atmosphere, and of mineral or other fluids or acids. These Pipes are very desirable, as they are in extensive and increasing demand, for small Sewers, Drains, Conduits, Flues, &c., instead of Brickwork, which must be erected of a bore fifty per cent. larger than the Pipes in diameter to equal them in efficiency. Also, CONICAL, REBATED, and PLAIN PIPES, of various diameters and lengths. The different forms of Pipes when divided longitudinally into halves, before they are fired, make superior surface Channels, especially adapted to convey water down the slopes of railway and other works. The Pipes, Bricks, and other articles have been, and continue to be in extensive use in the construction and draining of railway and other important works, a proof of the estimation in which they are held by the Engineers.

THE SKIRTING TILES protect the Plaster on the Walls, and make a neat and durable finish. Vermin cannot harbour about them, and Oil-paint of any colour they will take and retain for a long time. GARDEN-WALK EDGING, either with a bead along the top or an OG, has a neat appearance, and holds up the soil, but does not shelter insects; it is the best and cheapest material for the purpose on account of its durability. DRAIN GRATES are intended to prevent Leaves, Straws, Sticks, and other things from choking Drains; they are suited to gravelled-walks in Parks, Pleasure-grounds, Gardens, Cemeteries, as well as Streets, Scullieries, Courts, Areas, and all other places where water enters Drains. CHANNEL BRICKS supplied of different lengths, breadths, and patterns, to lay in any place paved with flag or other material where water is to be carried off. WALL-COPING, of several patterns and dimensions, calculated to preserve walls, and especially those built of bricks of questionable durability; one of the patterns, with Bridge Tiles over the joints, is uniform with the Grecian Tiles for Roofs. CHIMNEY-TOPS are manufactured to suit Customers, a few patterns are always ready for sale. Many smoky chimneys, which had not been benefitted by any other means, have been cured by a roomy Pipe three feet long, pierced all over with holes, 1½ inch diameter.

PUGGING TILES are of various patterns, to place in partitions; also, under chamber floors to prevent the noise of one room from being an annoyance in others. KILN-FLOOR TILES are of two sizes, viz., 9 inches and 12 inches square, and well pierced; they are used to pave Kilns for drying and seasoning, Malt, Grain, &c., as well as Wool and other materials used by manufacturers and others. FLUE COVERS are either oblong or square, about 2 inches thick, and of different sizes; they are used to lay over horizontal Flues, extending from centre to centre of the mid-feathers or partition-walls. DRAINING SHELLS, whose form is well known to be like a horse-shoe, if one looks at the end or transverse section of the Tile, are of three sizes, viz., 2½ inches, 3½ inches, and 4½ inches across the feet or bottom. Of Terro-Metallic the shells are very durable, and are usually placed in the drains upon damaged Roof-tiles of the same material.

CHIMNEY AND OTHER FUNNEL LININGS, instead of parget, are a desideratum in consequence, 1st, of its being illegal as well as inhuman to employ climbing-boys; 2nd, of smoky chimneys and down-draughts, owing to defects in the joints of the brickwork between the flues, and the parget having perished; and, 3rd, of many and disastrous fires attributable to the latter defects. These linings are made of a peculiar mixture of materials to bear heat and cold; they are of different dimensions and forms of area, and are unquestionably deserving of attention from all who are erecting or altering chimneys; they have been extensively used in some parts of the kingdom for many years past, and with entire satisfaction.

HOW TO CUT OR FIT TERRO-METALLIC WARE: rule upon the edges and surfaces of the article the line of division proposed, then with the cutting-end of a brick-hammer, or other instrument made as sharp as possible, chip along said lines to the depth of one-sixteenth or one-eighth of an inch, without omitting any part, and always deepest at the arisses. This done, the article will divide under a few slight taps with the edge of a trowel, or other similar tool in weight proportioned to the size and thickness of the article. TO PRESERVE THE COLOUR of the articles, care should be taken not to expose them to lime or other similar dust,—or to mortar, the stains from which cannot be removed. Ridging or Hip Tiles should be pointed early on a fine day, and in mortar almost black with smith's refuse or furnace sand.

THE TILERIES ARE SITUATED near the centre of the Kingdom, about Three Furlongs from the Main Line of the North Staffordshire Railway, with which it is to be connected as soon as finished by a private branch, and along the margin of the Grand Trunk Canal from the Trent to the Mersey, rendering transit both expeditious and cheap to the port of Liverpool, and moderate to all other parts of the empire. FOR EXPORTATION TO THE BRITISH COLONIES, and Foreign Countries generally. MERCHANTS in Liverpool and Glasgow especially, will find these goods susceptible of extended and lucrative commerce. THE MANUFACTURER IS NOT IN THE CARRYING TRADE, and therefore cannot undertake carriage of his goods, excepting to deliver them alongside of carriages, boats, or railway trucks at his own wharfs or branch railway, at which time he expects them to be signed for "in good condition," and responsibility to end as far as he is concerned. POSSIBLE VARIATION IN SIZE OF ARTICLES—PIPES, as well as other things contained in the lists, may vary more or less from the stated dimensions and weights; they are, however, as accurate as circumstances permit, and sufficiently so, it is hoped, for general information. PURCHASERS NOT TO PICK THE ARTICLES, which are sorted "ACCORDING TO THE CUSTOMS OF THE BRICK AND TILE TRADE," as soon as drawn out of the ovens, and having been placed upon the works or other premises in the usual manner, they are not to be picked, but taken all together as far as the number required; still, purchasers may select any of the lots to be supplied from, provided they do not reject any of the articles. NEWLY-DESIGNED ARTICLES, AND ALTERATIONS SUBJECT TO EXTRA CHARGES for new moulds or altering others, and for extra labour in piercing, nicking, dividing, or altering any article from the established form or size. NUMBER IN COUNT is ten times ten in a hundred, ten of which make a thousand. TERMS RESPECTING CREDIT, SPECIAL CONTRACTS, AND PAYMENT, must be regulated principally by the nature of the disbursements in the trade, and partly by such special bargains as the manufacturer may enter into; Excise, Wages, and other out-goings, are prompt and without abatement, consequently special bargains are to be strictly fulfilled by purchasers in all points of view, payment to be made punctually and without abatement, according to such special agreement, and generally in all other cases the prices as per lists respectively, as well as charges for new or altered goods, are to be paid for on or before delivery in cash, without discount, premium, or abatement, or the respective items to be subject to interest at the rate of 5*l.* per cent. per annum, until paid. REFERENCE INDISPENSABLE in special bargains, or any other instance where goods are to be delivered before they shall be paid for. LETTERS MAY BE ADDRESSED to either No. 4 Wharf, Macclesfield-street South, City-road Basin, London: or to The Tileries, Tunstall, Staffordshire Potteries.


## UNSOLICITED TESTIMONIALS, NOTICES, &c.

"I consider they," the Terro-Metallic Drain Pipes, "are admirably adapted, from their material and Strength, as well as from their Straightness and Smoothness, for house and other drains."—*Extract from a letter by John Phillips, Esq., Surveyor to the Honourable Commissioners of Sewers for Westminster and part of Middlesex, 1846.*

"I beg to call the attention of the Court to the necessity of its taking steps to procure immediately a further supply of Straight and Curved Lengths of Terro-Metallic Drain Pipes, of 9 inches diameter, with Socket Joints, as those now in store will soon be worked up. It is also desirable to procure some with Bevelled Ends to suit the sides of the Sewers * * * and others of a funnel shape, similar to the model presented herewith, for the Gaullies and Gully Drains. Fig. 2 shews the mode, by means of pipes, of connecting private drains with new sewers; and as it is essential, both as regards economy and sound construction, that they should be worked in the side walls whilst sewers are being constructed, I propose that a large quantity of them should also be procured. * * * I also propose that in lieu of using bricks, as at present, for connecting private drains with the sewers already constructed, the connections be formed, after Midsummer day next, by means of Terro-Metallic Pipes."—*Extract from a Report by the above-named Gentleman, dated 1st May, 1846.*

"The Bricks, being made of clay peculiarly good in quality and triturated by machinery." (The peculiar machinery for this process was erected by Mr. Telford, but was removed at the completion of his work. The advertiser has not seen such machinery either before or since), "and, being carefully moulded and burnt, are, in fact, the best Newcastle blue brick, the hardest and most durable of any made in England."—*Life of Telford, page 77.*

"The best external covering is Lead, which should be not less than seven pounds to the foot; or Copper of not less than twenty-two ounces to the foot. Blue Tiles * * * are perhaps the next best covering," i.e., of roofs.—*Suggestions and Instructions from the Incorporated Church Building Society, published in "The Builder" of the 16th of May, 1846, page 232.*

"On the western side of Tunstall, on the long declivity which reaches to the banks of the canal, are the extensive works called THE TILERIES. The clay on this brow has a semi-vitreous quality; it has been partially worked for a century past, but of late years its manufactured products have risen into increased importance, and are forwarded to distant parts of the kingdom; consisting of Tiles, Quarries, Building and Flooring Bricks, Pipes for conveying water, and other similar articles of very superior hardness and durability. At these works steam-engines are used for crushing and preparing the clay."—*History, etc., of the Borough of Stoke-upon-Trent, by John Ward, Esq., page 100. Simpkin, Marshall, and Co., 1843.*

"A mode of Tiling adopted by the ancients, and of which there are specimens still to be found in Rome, is thus described by Borgnis ('Traite de Construction,' p. 253), a description follows, with plans and sections of the 'Italian' Tiles, 2 B and 2 C, p. 956, and sec. 1234:—'the mode of Tiling exhibited in the Temple of Diana Propylea, is given in the engravings of that Temple in the Unedited Antiquities of Attica.' After describing this mode of 'Grecian Tiling, D 2 and E 2, with plans and sections, it is stated that "the effect of these Tiles is remarkably good, and imitations of them might be introduced in Villas and cottages with excellent effect."—P. 956, and sec. 1235.

"Which (viz., Flat or Plain Roof Tiles, with lower ends ornamental) would produce an agreeable shade, shewing off some of the most pleasing alternations of straight and waved lines that this species of material is capable of producing." P. 229, and sec. 459, where the Tiles are figured.

"The Tiles being formed of Terro-Metallic Earth, have somewhat of the colour of Cast-iron; they are almost equally hard, and must, from their nature, be incomparably more durable. In short, we consider them as the best of all coverings for roofs, whether of small or large buildings. * * * There are suitable Ridge-Tiles, Hip-Tiles, Valley-Tiles, and many others, all manufactured by Mr. Peake, in the same superior style."—*Page 648, and sec. 1368, Loudon's Encyclopædia of Cottage, Farm, and Villa Architecture. Longman and Co., 1833.*

"Every thing tending to facilitate the sweeping of chimneys by machinery is now peculiarly deserving of public attention. We have been much interested by the sight of a newly-introduced material for lining flues, invented and manufactured by Mr. Thomas Peake, of Tunstall, Staffordshire, whose various important Terro-Metallic improvements are so popularly known through 'Loudon's Encyclopædia.' This species of piping is so exceedingly cheap that it will cause no very material additional expense in the construction of chimneys; it can sustain no injury from the action of fire, and as it presents a perfectly smooth channel for the sweeping machine, so it also requires less frequent cleansing than a common chimney, as it affords no lodgment for soot."—*Sheffield Iris, 14th Dec. 1841.*


**LISTS TO CONTAIN NEARLY ALL THE ARTICLES, WITH OTHER DETAILS RESPECTING THEM, ARE TO BE READY FOR DISTRIBUTION IN A SHORT TIME.**

***Reference to sketches of some of the articles:—They are to a scale of 3-4ths of an inch to a foot, or thereabouts.***

No. 1. Plain Roofing Tiles.
No. 2. Ornamental Roofing Tiles of six patterns
A A 2. Pan Tiles.
2 B. } Italian Tiles.
2 C. }
D 2. } Grecian Tiles.
E 2. }
2 D. Grecian Ridge.
2 E. Grecian Eaves Tile.

3. Plain Gable Tile.
A 3. Italian Ridge.
No. 4. Capped Ridge Tile.
5. Plain Ridge.
C 5 to F F 5. Plain Saddle, grooved for ornaments.
C 5 to F F 5. Rolled Saddle, grooved for ornaments.
B 5. Pyramid Ridge.
C 5. Vandyke Ridge.

D 5. Trefoil Ridge.
E 5. Fleur-de-lis Ridge.
F 5. Fleur-de-lis Ridge.
F F 5. Fleur-de-lis Ridge.
G 5. Inverted Arch Ridge.
6. Capped Ridge.
A 6. Gothic Cap Ridge.
7. Rolled Top Ridge.
10. Quoined Hips.
11. Quoined Vallies.

A 13. } Paving Tiles.
B 13. }
C 13. } Paving Tiles.
D 13. }
15. Paving Tiles.
A 15. Paving Tiles.
No. 16. Paving Tiles.
17. Skirting Tile.
18. Skirting Tile.
19 Skirting Tile

21. Paving Bricks.
20. Channel Brick.
D 30. Channel Tile.
33. Kiln-floor Tile.
40. Wall Coping.
41. Wall Coping.
No. 44. Drain Guard.
48. Garden Edging.
A 48. Garden Edging.
48. Drain Shell.

51. Plain Pipe.
52. Rebated Pipe.
57. Socket Pipe.
61. Conical Pipe.
B 64. Flue Lining.
C 64. Flue Lining.
C 65. Chimney Top.
66. Chimney Top.
67. Chimney Top.
[Entered at Stationers' Hall.